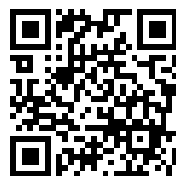

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ROCKEFELLER SANITARY
COMMISSION FOR THE
ERADICATION OF
HOOKWORM DISEASE



(PUBLICATION No. 9)

THE ROCKEFELLER SANITARY COMMISSION
FOR THE
ERADICATION OF HOOKWORM DISEASE

Fifth Annual Report
FOR THE YEAR 1914

OFFICES OF THE COMMISSION
WASHINGTON, D. C., U. S. A.
JANUARY, 1915

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C. W. STILES, *Scientific Secretary*

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State Health Officer
W. W. DINSMORE, M. D.
State Director for Sanitary Commission
P. B. MOSS, M. D.
State Bacteriologist and Pathologist

ARKANSAS:

- C. W. GARRISON, M. D.
Secretary and Executive Officer †

GEORGIA:

- H. F. HARRIS, M. D.
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A. G. FORT, M. D.
Director of Field Sanitation

KENTUCKY:

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*Secretary and State Health Officer, and State Director of
Hookworm Commission*
LILLIAN H. SOUTH, M. D.
State Bacteriologist

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W. M. PERKINS, M. D.
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SIDNEY D. PORTER, M. D.
State Sanitarian and Director of Hookworm Department.

MISSISSIPPI:

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W. S. LEATHERS, M. D.
Director of Public Health
C. R. STINGILY, M. D.
State Bacteriologist

* For complete list of all persons identified with the work of the Commission (exclusive of the New York and Washington offices) during 1914, see Appendix.

† State Director of Rural Sanitation, Jan.-Nov., 1914.

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W. P. JACOBS, M. D.
Assistant Secretary for Hookworm Disease
C. A. SHORE, M. D.
Director State Laboratory Hygiene

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J. LABRUCE WARD, M. D.
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OLIN WEST, M. D.
Assistant Secretary for Eradication of Hookworm Disease
WILLIAM LITTERER, M. D.
State Bacteriologist

TEXAS:

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R. P. BABCOCK, M. D.
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M. H. BOERNER, M. D.
State Director of Hookworm Commission
G. M. GRAHAM, M. D.
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VIRGINIA:

- ENNION G. WILLIAMS, M. D.
Commissioner
ALLEN W. FREEMAN, M. D.
Assistant Commissioner
MEADE FERGUSON, PH. D.
Bacteriologist

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CHAPTER I.

GENERAL SUMMARY WITH NOTES.

The five-year period for which The Rockefeller Sanitary Commission was established came to a close on December 31, 1914, and the unfinished work in hand was assumed, in accordance with tentative arrangements previously made, by the International Health Commission, an organization created by The Rockefeller Foundation in 1913 for health work throughout the world. It seems advisable in this closing report of The Rockefeller Sanitary Commission to review briefly the purposes for which it was created, and the extent to which it has fulfilled these purposes.

The Rockefeller Sanitary Commission for the Eradication of Hookworm Disease was organized October 26, 1909, with the following members:

Dr. William H. Welch
Dr. Simon Flexner
Dr. Charles W. Stiles
Dr. Edwin A. Alderman
Dr. David F. Houston
Mr. Walter H. Page
Dr. H. B. Frissell
Mr. John D. Rockefeller, Jr.
Mr. Frederick T. Gates
Mr. Starr J. Murphy
Dr. P. P. Claxton
Mr. J. Y. Joyner.

These men, with the exception of Dr. P. P. Claxton and Dr. J. Y. Joyner, who were unable to be present, met in New York in response to an invitation from Mr. John D. Rockefeller, to discuss plans for the relief and control of hookworm disease in the Southern States.* The sum of \$1,000,000, or as much of this amount as should be needed, was placed at the disposal of the Commission. The letter from Mr. Rockefeller explaining his interest in the work and his offer of assistance read as follows:

October 26, 1909.

GENTLEMEN:

For many months my representatives have been inquiring into the nature and prevalence of "Hookworm Disease," and considering plans for mitigating its evils. I have delayed acting in this matter only until the facts as to the extent of the disease could be verified and the effectiveness of its cure and prevention demonstrated. The wide distribution and serious effects of this malady, particularly in the rural districts of our Southern States, first pointed out by Dr. Charles Wardell Stiles, of the United States Public Health and Marine Hospital Service, have now been confirmed by independent observations of other distinguished investigators and physicians, as well as by educators and public men of the South.

Knowing your interest in all that pertains to the well-being of your fellow-men, and your acquaintance with the subject, I have invited you to a conference in the hope that it may lead to the adoption of well-considered plans for a co-operative movement of the medical profession, public health officials, boards of trade, churches, schools, the press, and other agencies, for the cure and prevention of this disease. If you deem it wise to undertake this commission, I shall be glad to be permitted to work with you to that end and you may call upon me from time to time for such sums as may be needed during the next five years

* Mr. Wickliffe Rose became a member of the Commission following his election as Administrative Secretary.

for carrying on an aggressive campaign, up to a total of one million dollars (\$1,000,000).

While it would be a privilege to act in any movement which offers assurance of relieving human suffering, it is a peculiar pleasure to me to feel that the principal activities of your Board will be among the people of our Southern States. It has been my pleasure of late to spend a portion of each year in the South, and I have come to know and to respect greatly that part of our country and to enjoy the society and friendship of many of its warm-hearted people. It will therefore be an added gratification to me if in this way I may in some measure express my appreciation of their many kindnesses and hospitalities.

Very truly,

(Signed) JOHN D. ROCKEFELLER.

I. THE WORK UNDERTAKEN.

The Commission appointed Mr. Wickliffe Rose Administrative Secretary on January 15, 1910; offices were opened in Washington, D. C., in January, 1910; and active work began immediately. The purpose for which the fund had been given and the Commission created was the cure and prevention of hookworm disease in the States where it had become a menace. In the inauguration of this work it was assumed that the Commission itself should not attempt the task of complete eradication; that the problem was one for the States themselves to work out through existing agencies; that the Commission could be helpful only in so far as it could aid the States in organizing their own forces and directing them to the work to be done. Accordingly, co-operative arrangements were entered into with the departments of health in eleven Southern States.* The State was adopted as the unit of organization. In each State a director was appointed. He was given a field force of physi-

* Nine states between February and November, 1910: Virginia, North Carolina, Georgia, South Carolina, Tennessee, Arkansas, Mississippi, Alabama and Louisiana; two—Kentucky and Texas—in 1912.

cians, and a staff of microscopists.† For each State the co-operative service of the Commission undertook the following definite things:

1. To demonstrate to the people of the State that hook-worm disease was a *reality*; that it was a serious handicap; that it was curable and preventable.

2. To make an infection survey that should give a reliable estimate of the degree of infection by counties.

3. To make a sanitary survey which should show by counties the condition of soil-pollution responsible for the presence and spread of the infection.

4. To conduct an intensive educational campaign in each county where the infection was sufficiently severe to justify the effort; to teach the people by means of the printed page, by lecture, by exhibit, by demonstration, the importance to the community of having every person examined and every infected person treated; to teach them how the examination should be made, how the disease should be treated, how the infection was spread, and how it could be prevented.

5. To help the practising physicians of the State in diagnosing the disease and treating it.

6. To have medical schools provide definite instruction in the diagnosis and treatment of intestinal parasites for all students as a requirement for graduation.

7. To enlist the press of the State in the work.

8. To make the teaching of the dangers of soil-pollution and the prevention of soil-pollution a regular part of the instruction given in the public schools of the State.

† For the personnel, including officials in the various states, see the First Annual Report, pp. 5, 6; Second Annual Report, pp. 6, 7; and especially Fourth Annual Report, pp. 2-6, inclusive. See also pp. 91-93 of this report.

9. To make definite, measurable reduction in the degree of infection for the heavily infected areas; to make definite, measurable increase in the sanitary index of these areas; and, as a means to this, to make at least one complete community demonstration, in the hope that such intensive community work might prove the key to more extended operations on the part of State and local communities.

10. If possible, to help lay the foundation of a State and local health service that should in the end take care of hookworm infection and all other preventable diseases.*

II. THE WORK ACCOMPLISHED.†

Of the plan here outlined, the following is a summary of the work that has been accomplished:

1. **Importance of the Problem Recognized.** The work of demonstrating to the people of these eleven Southern States that hookworm disease is a reality; that it is a serious menace to health and working efficiency; and that it can be cured and prevented, may be said to have been accomplished. When the work began in 1910, knowledge of the disease was confined to a relatively small minority of physicians. Still fewer realized the importance of the disease as a feature of their practice. Of laymen who had heard of it, many regarded it as a myth; others—few in number—considered it a newly discovered disease of great importance. One may still find individuals here and there who do not take the disease seriously; nevertheless, the Commission may regard this part of its work as

* Circular letter to State Directors, No. 135, June 14, 1913.

† Persons who may desire to see how the work was organized and how the various activities were defined and conducted in the early stages of the work are referred to the First Annual Report by the Administrative Secretary. An account of the dispensary and its methods of work may be found in the Second Annual Report. The Third Annual Report describes the dispensary exhibit, and shows how the co-operation of the people, the physicians, and other agencies was enlisted. These reports will be sent out on request until the supply is exhausted.

done. The medical profession and the public now generally recognize the prevalence of hookworm disease, and regard its cure and prevention as an essential part of public health work in the South.

2. Infection Survey. The infection survey, based on a microscopic examination of at least 200 rural children between the ages of 6 and 18 in each county, has been completed for 596 counties in the eleven States; that is, for practically all counties where the infection is worthy of note. The total number of children examined was 548,992, or an average of 921 per county. The presence of infection has been found in practically every county in these States, with the exception of the western three-fourths of Texas.

In the 596 counties there have been examined to date 548,992 rural children, of whom 216,828, or 39 per cent., were found infected—a reduction of 4 per cent. from the 43 per cent. infection found among the 403,719 children examined and the 175,167 found infected prior to 1914. This indicates that the counties where the work of 1914 was done had lighter infection than the counties having the work completed in 1911, 1912 and 1913. This lighter infection may have existed five years ago, when this work began, or its light degree may be due in part to the work of the practising physicians, who, during the past five years, have treated and reported 254,118 persons.

The number of counties surveyed, the number of children examined during the five years, and the amount of infection were as follows:

Year	Number of Counties Surveyed	Average No. Examined in County	Number of Children Examined	Number of Children Infected	Per Cent. Infected
1910.....	1	874	874	262	29%
1911.....	74	555	41,080	21,407	52%
1912.....	129	797	102,886	58,040	56%
1913.....	207	1,250	258,879	95,458	36%
1914.....	185	785	145,273	41,661	28%
Total....	596	921	548,992	216,828	39%

Average percentage of infection:

Prior to 1914.....	43%
Prior to 1915.....	39%

3. **Sanitary Survey.** The sanitary survey to determine by counties the condition of soil-pollution responsible for the presence and spread of the infection has been completed for 653 counties. In all, 250,680 farm homes have been inspected, of which 125,584 were found to be without privies.

(a) Number of counties surveyed:

1911.....	117
1912.....	184
1913.....	197
1914.....	155
Total.....	653

(b) Number of homes inspected:

1911.....	38,531
1912.....	64,594
1913.....	83,388
1914.....	64,167
Total.....	250,680

(c) Average number of homes inspected for each county, by years:

1911.....	329
1912.....	351
1913.....	423
1914.....	414

Average, all years..... 383

(d) Types of privies, all years:

No. of privies type A at 100%.....	1,360	136,000
No. of privies type B at 75%.....	842	63,150
No. of privies type C at 50%.....	965	48,250
No. of privies type D at 25%.....	8,247	206,175
No. of privies type E at 10%.....	113,682	1,136,820
No. of privies type F at 0%.....	125,584	0

Total number of homes inspected. 250,680 1,590,395

Sanitary index..... 6.3%

It should be noted that both the sanitary survey and the infection survey, while valuable in themselves, have been carried on incidentally to the work of cure and prevention, with very little added expense of time or money.

4. Dispensary Campaigns. The intensive educational work outlined in Section I (4)* has been completed in more than half of the counties in these States.† The work has centered around dispensaries conducted for the free examination and the free treatment of all persons who should apply. The dispensaries are widely distributed at five or more points in the county, and on one day of each week for five successive weeks, or longer, free clinics are held at each dispensary point. The

* Page 10.

† See page 34 for the figures.

people have taken advantage of this opportunity. They have been urged to do so by the press, by the practising physicians, the teachers, and influential citizens, who have set an example by having themselves examined.

These dispensary campaigns have been financed in part with funds appropriated by the counties and used for paying one or more of the following items of local expense:

- (a) Cost of specimen containers;
- (b) Cost of drugs;
- (c) Cost of advertising matter and its distribution;
- (d) Traveling expenses of microscopists.

As a means for educating the people, and getting them out to hear lectures, to see demonstrations, to carry literature home, to be examined, and, where infected, to receive treatment, the county dispensary has proved a gratifying success. Since 1911, when the first one was opened in the South, the field staffs have conducted 578 county dispensary campaigns, microscopically examined 1,087,666 persons (366,038 in 1914), and treated 440,376 persons who were found infected. In many counties from 25 to 50 per cent. of the entire population has been microscopically examined.

Dispensary work has been conducted in 578 of the 968 counties that are included in the eleven States.* Of the remaining counties, approximately 100 show an infection warranting dispensary work: 23 in Tennessee, 7 in Alabama, 62 in Georgia, and 8 in Texas; and the International Health Commission is completing the work in these counties. Kentucky, where hook-worm work did not begin until 1912, and where progress has been hindered somewhat by the difficulties of winter trans-

* Only 75 of the 249 counties of Texas are counted in the infected area.

portation in the mountain counties, still has from 20 to 25 counties that need dispensary campaigns; and it is hoped that the State department of health may be able to see its way clear to extend the work to the sections not yet reached.

The amount of county dispensary work by States is indicated in the following table:

State	Number of Counties in the State	Number of Counties Having Dispensary Campaigns
Alabama.....	67	53
Arkansas.....	75	43
Georgia.....	148	66
Kentucky.....	120	32
Louisiana.....	64	49
Mississippi.....	79	76
North Carolina.....	100	99
South Carolina.....	44	41
Tennessee.....	96	43
Texas*.....	75	45
Virginia.....	100	31
Total.....	968	578

The Commission during 1914 expended \$200,639.07 for examining 394,350 persons, and treating 152,195 cases. The 173 counties where dispensary work was completed in the year 1914 expended \$29,004.05. The various States have rendered available for the work, amounts ranging from about \$200.00 to \$8,000.00. These expenditures, however, have not in all cases been actually recorded; consequently, the cost to the States is here omitted:

* Only 75 of the 249 counties of Texas are counted in the infected area.

COST OF EXAMINATIONS, 1910-1914.

Year	Number of Persons Examined	EXPENDED BY		COST TO	
		Commission	County	Commis- sion	County
1910.....	10,550	\$ 67,573 96	.....	\$6 40	.....
1911.....	65,411	146,676 82	\$ 6,303 32	2 24	\$ 10
1912.....	307,014	183,744 36	21,679 09	60	08
1913.....	486,119	199,254 15	33,380 00	41	07
1914.....	393,845	200,639 07	29,004 05	51	07
Total....	*1,273,345	\$797,888 36	\$90,366 46	\$ 63	\$ 07

COST OF TREATMENTS, 1910-1914.

Year	Number of Persons Treated†	EXPENDED BY		COST TO	
		Commission	County	Commis- sion	County
1910.....	8,000	\$ 67,573 96	.....	\$8 45	.....
1911.....	112,821	146,676 82	\$ 6,303 32	1 30	\$ 06
1912.....	220,898	183,744 36	21,679 09	83	10
1913.....	186,633	199,254 15	33,380 00	1 07	18
1914.....	152,173	200,639 07	29,004 05	1 32	19
Total....	†694,494	\$797,888 36	\$90,366 46	\$1 15	\$ 13

(a) Number of counties making appropriations for dispensaries:

1910.....	2
1911.....	59
1912.....	173
1913.....	208
1914.....	114
Total for five years.....	556

* See note following Table No. 13, p. 37.

† See note following Table No. 19, p. 43.

‡ Includes persons to whom medicine was dispensed.

(b) Total amount appropriated by counties:

1910.....	\$ 241.50
1911.....	10,011.54
1912.....	31,185.93
1913.....	43,649.68
1914.....	25,051.14

Total for five years.....\$101,139.79

(c) Number of counties in which dispensary work has been completed:

1911.....	45
1912.....	155
1913.....	205
1914.....	173

Total for four years..... 578

(d) Total amount expended by counties in which dispensary work has been completed:

1911.....	\$ 6,303.32
1912.....	21,679.09
1913.....	33,380.00
1914.....	29,004.05

Total for four years..... \$90,366.46

(e) Number of microscopic examinations made at dispensaries:

1910.....	1,069
1911.....	35,837
1912.....	255,323
1913.....	429,399
1914.....	366,038

Total for five years..... 1,087,666

(f) Average cost to counties for each microscopic examination made at dispensaries:

1910.....	\$.00
1911.....	.18
1912.....	.08
1913.....	.08
1914.....	.08
Average.....	\$.08

(g) Number of persons treated at dispensaries:

1911.....	66,221
1912.....	155,920
1913.....	120,314
1914.....	97,921
Total for four years.....	440,376

(h) Average cost to counties for each person treated at dispensaries:

1911.....	\$.10
1912.....	.14
1913.....	.28
1914.....	.30
Average.....	\$.21

5. **Co-operation of the Medical Profession.** It should be stated as a general proposition that members of the medical profession have become well informed as to the existence, prevalence, and importance of hookworm disease; the technique for its recognition; and the methods for its treatment. The physicians have received from the State boards of health pamphlets and bulletins on the disease. Medical journals have

published pertinent treatises. The State directors have addressed letters, inquiries, and literature to physicians; and have lectured before their meetings. Many thousands of them live in counties where dispensary campaigns have been conducted. It may be said, therefore, that the Commission has completed the work of enlisting the co-operation of the physicians, of whom very many have given generously of their time and energy to the work.

6. Instruction in Medical Schools. The work of inducing all of the medical schools in each State to make provision for instruction in the diagnosis and treatment of intestinal parasites, to be given to every student as a requirement for graduation, has made good progress and has probably been carried as far as present conditions warrant.

A survey has been made of the medical schools of the South, including those giving only the first two years of the course and those granting degrees, to ascertain what work is being done in this subject. When the survey was made (1913) there were twenty-nine medical colleges; three of which were for colored students. Twenty-two of these reported that specific clinical lectures and clinical instruction were given in hookworm disease. In two schools incidental instruction was given. Reports were not received from five schools. In the larger schools the work was thorough. Tulane University has adopted a high standard in this particular. The following statement is extracted from its report:

Students in the junior year practice the laboratory diagnosis of hookworm disease and other intestinal parasites for ten or twelve hours. These students are thoroughly drilled in the technique, and required to make diagnosis on a large number of specimens. They also learn the centrifuge method at this time.

In the senior year the students make practical diagnoses of all cases which occur in their service during one-half the term. It is probable that each student performs diagnoses upon from ten to fifty cases of intestinal parasites. In the didactic lectures, two lectures of one hour each are given, in which general symptomatology and the treatment of the disease are thoroughly discussed. In the clinics each student sees from a few up to thirty or forty cases, perhaps, under treatment in his service during the session. It is seldom, however, that a student does not have one or more cases of hookworm disease assigned to him for diagnosis, and to be watched and treated. The fundamental principles of prevention are thoroughly explained, both in the didactic lecture and in the lecture introductory to the laboratory diagnosis.

7. **The Press.** The work of enlisting the press has been done, and well done. The newspapers, early in 1910, delighted in less than serious discussions of the hookworm—"the lazy germ," "the hookworm theory," "the fad," "the myth," "the conception of ingenious minds for the injury of the South." Some of them denounced the assertion that such a disease existed at all. Many were particularly bitter in disclaiming its existence in the South. Very few papers could be said to be friendly, or willing to co-operate actively with the Commission in launching the work.

The work, however, began. As definite progress in locating and treating infected persons advanced, the results were investigated by the papers. One by one their attitude changed. They began to publish serious statements. They got behind the directors, and aided in educating the public. Without exception, so far as is known, they now recognize the importance of the disease, and are contributing space in their columns to the propaganda for its relief and control.

8. **Instruction in the Public Schools.** The effort to secure the teaching of the dangers of soil-pollution and the prevention of soil-pollution, as a regular part of the instruction given in the public schools of each State, has met with gratifying success, but the task has not yet been completed. The educational departments of State and county have been the strongest possible allies in the work. The State superintendents of education in some of the States have aided in the passage of laws for better sanitary conditions in the schools. Bulletins on hookworm disease have been published and distributed by State directors of education. These departments have also sent out large numbers of letters to county officials and to teachers, urging their co-operation in the work. County boards of education, in many instances, have given financial aid. In a large number of counties the superintendents have visited the schools with field directors, and have aided in enlisting the active interest of teachers, and in having the pupils examined and treated. The teachers themselves have been the most effective allies the field directors have found.

Laws requiring the building and use of sanitary privies at all the public schools have been enacted in Virginia and Louisiana, and are being enforced. In North Carolina no new school-house is accepted by the State department until it has been provided with sanitary privies. In many of the States sanitary privies, for the protection of the children and as a demonstration to the community, have been built at the schoolhouses by action of county boards.

Definite instruction on the subject of hookworm disease and the dangers and prevention of soil-pollution has been made a part of the school course in Virginia, North Carolina, South Carolina, Georgia, Alabama, Louisiana, Texas, and Kentucky. In Virginia, North Carolina, Alabama, and Kentucky the text-

book has been supplemented by bulletins, leaflets, or catechisms especially prepared by the State directors of the service. In some of the States, like Tennessee, Mississippi, and Arkansas, instruction on sanitation is given by means of health days, lectures, and literature under the direction of the school leagues.*

9. Intensive Community Work. The task of making definite, measurable reduction in the degree of infection for heavily infected areas, and of making definite, measurable increase in the sanitary index of the areas, began toward the close of the five-year period for which the Commission was created. Intensive community work was the method adopted.

The county dispensary, with its hurried six weeks' campaign, was intended as a rallying-point to which people could be brought to hear lectures; to see exhibits of hookworms and photographs; to observe the microscope at work in recognizing hookworm infection; to follow the method of treating cases; to receive literature; and, as a result of treatment there given, to see a sufficient number of improved cases to convince them that the disease existed, that it was a serious menace, and that they should adopt measures for combating it. The dispensary was an educational agency, and it was not expected to secure a measurable reduction in the degree of infection. Large numbers of people have been treated at the dispensaries and the degree of infection has doubtless been reduced. The dispensary work has resulted also in the building of many privies at schools and at farm homes, so that the sanitary index has been raised in many counties; but the dispensary work does not yield the demonstrable advance that can be easily measured and recorded.

Intensive community work has been done in twelve communities, distributed over four States. These communities

* See also Bulletin of the U. S. Bureau of Education, 1914, No. 20, *The Rural School and Hookworm Disease*.—Washington, Government Printing Office, 1914.

average 188 families, 1,025 persons, and approximately 32 square miles of territory. The task undertaken was directed: (1) toward the examination of every person in the community for hookworm infection, and the treatment of the infected until cured; (2) toward the improvement of privies already existing in the community, and the construction of new ones at homes where none was found. It was hardly expected, of course, that every person would actually be examined; that all those infected would be cured; that every family would provide itself with an improved privy; that the privies constructed would signify a high grade of workmanship; or that all members of the family would immediately acquire the habit of using a privy and of giving proper care to it. Under the circumstances, however, the progress has been noteworthy. Of the 12,305 persons residing in these 12 communities, 9,195, or 75 per cent., have been examined for hookworm infection. Of these 9,195 persons, 2,418, or 26 per cent., were found infected. Of the 2,418 infected, 2,264, or 94 per cent., received one or more treatments for the disease, and 653 persons, or 29 per cent., were shown by re-examination to be cured. The actual percentage of cures is undoubtedly much higher, since to demonstrate positively that a cure has been effected requires re-examinations from two to eight weeks after treatment.

The sanitary surveys show that there are 2,257 homes in the 12 communities; that 1,127 of them, or 50 per cent., had some kind of privy, and that 1,130, or 50 per cent., had no kind of privy when the work began. There are now in these 12 communities, representing 2,257 homes, 1,988 privies; that is to say, the number of families having privies was increased from 50 per cent. to 88 per cent. Twelve per cent. of the 2,257 homes have not been provided with privies. The sanitary work has been advanced further in some communities than in others.

The privies constructed are of various types. Very few, if any, are flyproof continuously. Some have not at any time been flyproof. Many are crudely constructed, doubtless more so, in many cases, than the houses, barns, stables, and other buildings seen on the premises; yet the fact that 861 privies have been built where none existed before signifies a measurable advance.

Although various types of privies are to be seen in these communities, the prevailing variety is known as the pit privy, a description and illustration of which may be seen in a leaflet prepared by the State Health Commissioner of Virginia and issued by the Virginia State Department of Education; in Special Bulletin No. 43 of the North Carolina State Board of Health; and in Special Bulletin No. 1, issued by the Mississippi State Board of Health.

Although it is certain that the pit privy greatly decreases the danger from human excrement when this privy is placed in sandy or clay soils and at considerable distance from the water supplies, yet, like other types of privies which do not destroy or remove the dangerous bacterial life in the excreta, it is doubtless a source of danger in certain soil formations—particularly in swampy areas where drinking water is obtained from shallow wells, and in limestone regions. The State health officers, in suggesting the pit privy for farmhouses, do not urge it as an ideal privy in any sense; they are careful to explain that they accept it only on the recognized principle of public health work that complete progress is not to be looked for at a single step. Privies are of as many types as there are carpenters to build them and householders to care for them; and sanitary values are relative at best. Because they realize that this is the case, and because they see that the pit privy at its best can become an effective means of decreasing

soil-pollution, practical field workers not infrequently suggest its installation. Probably the pit privy represents the highest type of sanitation that some localities will be able to develop for years to come. Here, as in other phases of intensive community health work, 100 per cent. efficiency is the ideal toward which all are anxious to strive; but in the present stage of human progress we shall probably have to expect somewhat less than that if we are to make any measurable advance.

10. Development of State and Local Health Service. There has been a marked growth in sentiment favoring preventive measures through public health agencies, and a significant increase in expenditures by the States for health work. The eleven Southern States report an expenditure of \$392,364 from their own funds for health departments in 1914, as compared with \$216,195 in 1910, or an increase of 81 per cent. in less than five years. While the Commission assumes no credit to itself for this wholly voluntary action on the part of the States, it is a matter for congratulation that the co-operative efforts of the Commission and of the State departments of health, exerted in one field—that of hookworm disease—have proved stimulative to other departments of health work, and have aided in the development of public health agencies by the States and communities. If the activities of the Commission, in pointing out the problem and the means of solving it, have thus resulted in helping people to help themselves, it would appear that the hopes of the founder have been largely realized. In a letter of August 12, 1914, announcing the approaching termination of the five-year period for which his pledge was made, Mr. Rockefeller said: "The work thus far accomplished would seem to have brought about in all of the Southern States a very general knowledge on the part of physicians, health authorities, and the public, regarding

the prevalence of hookworm disease and the methods of treating and preventing it. The chief purpose of the Commission may thus be deemed to have been accomplished." With the awakened public sense, and the growing belief in the fundamental need for preventive measures, the future for public health work seems bright.

TABLE 1.—*Infection Survey, 1914.*

State	Number of Surveys Made*	Number Children Examined	Number Infected	Per cent. Infected
Alabama.....	12	12,583	7,182	57.1
Arkansas.....	27	18,225	1,868	10.2
Georgia.....	37	17,576	13,277	75.5
Kentucky.....	3	3,470	483	13.9
Louisiana.....	19	17,846	6,205	34.8
Mississippi.....	30	30,663	5,176	16.9
North Carolina.....	13	14,600	3,769	25.8
South Carolina.....	10	3,711	1,866	50.3
Tennessee.....	24	18,716	6,402	34.2
Texas.....	17	13,959	3,379	24.2
Virginia.....	21	18,337	2,452	13.4
Total.....	213	169,686	52,059	30.7

TABLE 2.—*Infection Survey, No. of Counties Surveyed, by Years.*

State	No. of Counties	1910	1911	1912	1913	1914 (by Quarters)					Grand Total
						1	2	3	4	Total	
Alabama.....	67	....	4	9	12	2	2	4	3	11	36
Arkansas.....	75	....	3	7	14	3	5	8	8	24	48
Georgia.....	148	....	2	15	15	5	6	6	20	37	69
Kentucky.....	120	....	....	3	18	1	..	..	..	1	22
Louisiana.....	64	....	10	11	20	3	5	4	2	14	55
Mississippi.....	79	....	10	19	24	7	5	5	8	25	78
North Carolina.	100	1	21	34	34	5	4	1	..	10	100
South Carolina.	44	....	3	8	17	1	1	1	1	4	32
Tennessee.....	96	....	11	11	12	2	5	9	6	22	56
Texas.....	249	....	....	4	20	4	5	4	4	17	41
Virginia.....	100	....	10	8	21	6	2	3	9	20	59
Total.....	1,142	1	74	129	207	39	40	45	61	185	596

* Includes 28 second surveys.

TABLE 3.—*Infection Survey.*
NUMBER OF CHILDREN EXAMINED AND NUMBER INFECTED, BY YEARS.

State	1910	1911	1912	1913	1914 (by Quarters)				Grand Total
					1	2	3	4	
Alabama.....	Examined.....	1,406	3,007	12,302	1,255	3,572	6,007	825	11,659
	Infected.....	967	5,997	5,997	456	2,086	3,609	384	6,535
Arkansas.....	Examined.....	997	3,441	9,744	4,518	4,523	3,401	3,380	15,822
	Infected.....	554	1,856	2,870	446	362	544	274	1,626
Georgia.....	Examined.....	568	6,406	6,083	4,907	3,536	3,271	5,862	17,576
	Infected.....	451	4,998	4,844	4,291	2,635	2,914	3,437	13,277
Kentucky.....	Examined.....	.....	5,974	82,141	1,468	.....	.....	.....	1,468
	Infected.....	.....	3,001	26,371	14	.....	.....	.....	14
Louisiana.....	Examined.....	4,541	8,442	24,959	4,408	4,713	1,460	922	11,503
	Infected.....	1,669	4,008	12,057	1,310	811	169	93	2,383
Mississippi.....	Examined.....	5,548	18,049	34,140	10,849	5,887	3,872	5,751	26,359
	Infected.....	4,445	13,409	10,669	509	41	1,207	661	2,418
North Carolina.....	Examined.....	20,111	40,298	38,256	7,482	2,514	1,336	287	11,619
	Infected.....	262	20,246	13,338	1,755	507	562	114	2,938
South Carolina.....	Examined.....	1,188	3,348	14,399	213	251	555	796	1,815
	Infected.....	918	1,612	6,118	141	111	420	32	704
Tennessee.....	Examined.....	2,671	3,624	7,851	1,688	8,089	4,235	2,470	16,482
	Infected.....	1,124	1,527	3,545	486	3,649	1,079	769	5,983
Texas.....	Examined.....	.....	4,216	13,976	3,223	5,520	2,837	2,379	13,959
	Infected.....	.....	2,879	5,756	479	577	959	1,364	3,379
Virginia.....	Examined.....	4,050	6,081	15,028	5,621	616	4,935	5,839	17,011
	Infected.....	1,449	2,783	3,893	249	64	925	1,166	2,404
Total.....	Examined.....	874	41,080	102,886	258,879	45,632	39,221	31,909	145,273
	Infected.....	262	21,407	58,040	95,458	10,136	10,843	8,294	41,661
									216,828

TABLE 4.
COMPARATIVE DEGREE OF INFECTION BETWEEN PERSONS OF ALL AGES AND THOSE OF SCHOOL AGE.

State	ALL AGES			SCHOOL AGE		
	Examined	Infected	P. C. Infection	Examined	Infected	P. C. Infection
Alabama.....	52,742	21,974	41.8	28,374	15,220	53.7
Arkansas.....	52,970	10,505	19.8	30,004	6,906	23.2
Georgia.....	73,278	44,347	60.5	30,633	23,570	76.9
Kentucky.....	128,030	42,682	33.6	89,583	29,386	32.7
Louisiana.....	55,002	24,601	44.7	49,445	20,117	40.6
Mississippi.....	166,623	56,814	34.1	84,096	30,941	36.7
North Carolina.....	278,664	82,449	29.6	111,158	46,614	41.9
South Carolina.....	58,787	20,403	34.8	20,750	9,352	45.0
Tennessee.....	75,667	20,186	26.6	30,628	12,179	39.8
Texas.....	63,376	17,790	28.0	32,151	12,014	37.4
Virginia.....	82,527	17,189	20.8	42,170	10,529	24.9
Total.....	1,087,666	358,940	33.0	548,992	216,828	39.5

TABLE 5.—*Sanitary Survey, 1914.*

State	Number of Surveys Made*	Number of Rural Homes Inspected
Alabama.....	13	2,204
Arkansas.....	24	10,369
Georgia.....	25	7,352
Kentucky.....	14	13,732
Louisiana.....	19	6,867
Mississippi.....	26	12,209
North Carolina.....	8	3,316
South Carolina.....	2	885
Tennessee.....	31	6,684
Texas.....	18	10,315
Virginia.....		
Total.....	180	73,933

TABLE 6.—*Sanitary Survey—No. of Counties Surveyed, by Years.*

State	No. of Counties	1910	1911	1912	1913	1914 (by Quarters)					Grand Total
						1	2	3	4	Total	
Alabama.....	67	....	9	15	11	2	2	3	5	12	47
Arkansas.....	75	....	7	10	14	2	4	6	7	19	50
Georgia.....	148	....	10	14	19	4	8	6	7	25	68
Kentucky.....	120	....	....	7	18	2	2	4	4	12	37
Louisiana.....	64	....	10	12	18	3	6	4	2	15	55
Mississippi.....	79	....	5	24	28	5	5	4	6	20	77
North Carolina.....	100	....	42	21	33	2	1	1	0	4	100
South Carolina.....	44	....	5	21	13	....	....	1	1	2	41
Tennessee.....	96	....	14	9	18	3	2	10	13	28	69
Texas.....	249	....	....	4	20	4	5	5	4	18	42
Virginia.....	100	....	15	47	5	....	....	....	....	....	67
Total.....	1,142	....	117	184	197	27	35	44	49	155	653

* Includes 25 second surveys.

TABLE 7.—*Sanitary Survey.*
NUMBER OF RURAL HOMES INSPECTED, BY YEARS.

State	1910	1911	1912	1913	1914 (by Quarters)					Grand Total
					1	2	3	4	Total	
Alabama.....		2,617	3,642	2,263	373	273	510	740	1,896	10,418
Arkansas.....		4,376	8,051	8,524	1,894	2,091	2,432	1,877	8,294	29,245
Georgia.....		3,933	4,623	4,892	1,021	3,011	1,491	1,829	7,352	20,800
Kentucky.....			3,372	13,681	802	4,001	4,645	2,761	12,209	29,262
Louisiana.....		6,805	8,462	6,477	863	1,270	1,162	1,757	5,052	26,796
Mississippi.....		1,304	11,178	19,732	2,681	3,321	1,675	1,985	9,662	41,876
North Carolina.....		12,066	7,150	10,893	507	229	1,428	288	2,452	32,561
South Carolina.....		1,870	5,015	3,252	.....	.....	240	645	885	11,022
Tennessee.....		2,898	1,904	4,720	578	476	2,042	2,954	6,050	15,572
Texas.....			1,383	7,925	2,364	3,604	2,515	1,832	10,315	19,623
Virginia.....		2,662	9,814	1,029	.....	.....	.....	.....	.....	13,505
Total.....		38,531	64,594	83,388	11,083	18,276	18,140	16,668	64,167	250,680

TABLE 8.—*Sanitary Survey.*
TOTAL NUMBER OF HOMES INSPECTED WITH CLASSIFICATION OF PRIVIES FOUND, ALL YEARS.

State	CLASS OF PRIVIES.						Grand Total
	A	B	C	D	E	F	
Alabama.....	27	.....	.....	85	5,473	4,833	10,418
Arkansas.....	.....	.....	.....	.....	10,288	18,957	29,245
Georgia.....	8	7	.....	23	13,783	6,979	20,800
Kentucky.....	73	230	138	3,831	11,667	13,323	29,262
Louisiana.....	7	173	146	1,186	15,746	9,538	26,796
Mississippi.....	71	18	132	113	18,357	23,185	41,876
North Carolina.....	34	6	24	227	15,193	17,077	32,561
South Carolina.....	94	2	2	10	5,034	5,880	11,022
Tennessee.....	10	19	8	287	5,401	9,847	15,572
Texas.....	983	373	515	1,802	5,290	10,660	19,623
Virginia.....	53	14	.....	683	7,450	5,305	13,505
Total.....	1,360	842	965	8,247	113,682	125,584	250,680

TABLE 9.—*Dispensary Summary.*
NUMBER OF COUNTIES APPROPRIATING, BY YEARS.

State	No. of Counties in State	1910	1911	1912	1913	1914 (by Quarters)					Grand Total
						1	2	3	4	Total	
Alabama.....	67	1	11	14	13	1	1	4	5	11	50
Arkansas.....	75	....	1	2	20	2	3	3	2	10	33
Georgia.....	148	....	2	21	19	2	8	6	8	24	66
Kentucky.....	120	....	....	7	14	1	1	5	3	10	31
Louisiana.....	64	....	8	10	19	2	4	4	1	11	48
Mississippi.....	79	1	10	24	20	5	5	5	7	22	77
North Carolina.	100	....	17	41	41	..	..	..	..	.....	99
South Carolina.	44	....	2	19	17	..	..	..	1	1	39
Tennessee.....	96	....	5	10	13	3	3	6	2	14	42
Texas.....	249	....	....	13	22	..	1	4	2	7	42
Virginia.....	100	....	3	12	10	..	4	..	..	4	29
Total.....	1,142	2	59	173	208	14	30	37	31	114	556

TABLE 10.—*Dispensary Summary.*
NUMBER OF COUNTIES HAVING DISPENSARY WORK COMPLETED, BY YEARS.

State	No. of Counties in State	1910	1911	1912	1913	1914 (by Quarters)					Grand Total
						1	2	3	4	Total	
Alabama.....	67	....	10	15	12	2	2	4	8	16	53
Arkansas.....	75	....	1	2	12	4	6	10	8	28	43
Georgia.....	148	....	1	18	21	4	8	6	8	26	66
Kentucky.....	120	....	....	6	12	..	3	6	5	14	32
Louisiana.....	64	....	5	10	20	3	5	2	2	14	49
Mississippi.....	79	....	7	22	26	5	5	5	6	21	76
North Carolina.	100	....	16	38	38	4	3	..	..	7	99
South Carolina.	44	....	2	20	16	..	..	2	1	3	41
Tennessee.....	96	....	....	12	15	4	4	5	3	16	43
Texas.....	249	....	....	4	20	4	5	5	7	21	45
Virginia.....	100	....	3	8	13	..	1	4	2	7	31
Total.....	1,142	....	45	155	205	30	42	49	50	173	578

TABLE 11.—*Dispensary Summary.*
NUMBER OF PERSONS MICROSCOPICALLY EXAMINED AT DISPENSARIES, BY YEARS.

State	1910	1911	1912	1913	1914 (by Quarters)				Total	Grand Total
					1	2	3	4		
Alabama.....		1,697	4,267	19,770	2,312	9,306	12,654	2,736	27,008	52,742
Arkansas.....		3,031	4,576	17,639	7,763	9,225	6,340	4,396	27,724	52,970
Georgia.....	1,020	1,121	14,509	16,211	7,344	15,112	9,168	8,793	40,417	73,278
Kentucky.....			14,049	50,436	3,410	5,996	29,239	24,840	63,545	128,030
Louisiana.....		2,862	8,004	24,606	5,901	5,698	5,325	2,606	19,530	55,002
Mississippi.....	49	7,222	40,176	73,854	10,433	10,222	14,797	9,870	45,322	166,623
North Carolina.....		16,701	126,562	104,607	17,107	8,126	4,413	1,148	30,794	278,664
South Carolina.....		2,130	8,124	37,438	2,603	2,526	3,707	2,259	11,095	58,787
Tennessee.....			8,267	24,165	9,562	15,651	12,000	6,022	43,235	75,667
Texas.....			8,460	30,453	6,926	7,752	6,195	3,590	24,463	63,376
Virginia.....		1,073	18,329	30,220	5,898	2,204	14,588	10,215	32,905	82,527
Total.....	1,069	35,837	255,323	429,399	79,259	91,818	118,426	76,475	366,038	1,087,666

TABLE 12.—*Dispensary Summary.*
NUMBER OF PERSONS MICROSCOPICALLY EXAMINED AT STATE LABORATORY, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913	1914 (by Quarters)					Grand Total
						1	2	3	4	Total	
Alabama.....	92	183	639	914	731	255	303	374	225	1,157	2,802
Arkansas.....	.....	.....	.....	600	446	118	130	93	108	449	1,495
Georgia.....	1,440	4,300	2,985	8,725	3,789	847	471	688	581	2,587	15,101
Kentucky.....	.....	.....	31,006	31,006	26,078	1,186	4,394	3,039	8,576	17,195	74,279
Louisiana.....	.....	.....	.....	2,382	1,862	69	143	23	67	302	4,546
Mississippi.....	.....	.....	.....	3,069	2,605	418	473	328	652	1,871	7,545
North Carolina...	7,949	20,115	9,761	37,825	3,280	183	385	367	168	1,103	42,208
South Carolina...	.....	.....	.....	4,355	8,099	161	225	317	200	903	13,357
Tennessee.....	.....	607	897	1,504	725	95	167	163	122	547	2,776
Texas.....	.....	.....	834	834	1,084	57	57	84	49	247	2,165
Virginia.....	.....	4,369	5,569	9,938	8,021	359	448	385	254	1,446	19,405
Total.....	9,481	29,574	51,691	*101,152	56,720	3,748	7,196	5,861	11,002	27,807	185,679

* See note following Table No. 13.

TABLE 13.—*Dispensary Summary.*
TOTAL NUMBER OF PERSONS MICROSCOPICALLY EXAMINED, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913	1914 (by Quarters)				Grand Total
						1	2	3	4	
Alabama.....	92	1,880	4,906	6,878	20,501	2,567	9,609	13,028	2,961	28,165
Arkansas.....		3,031	4,576	8,207	18,085	7,881	9,355	6,433	4,504	28,173
Georgia.....	2,460	5,421	17,494	25,375	20,000	8,191	15,583	9,856	9,374	43,004
Kentucky.....			45,055	45,055	76,514	4,596	10,390	30,278	33,416	80,740
Louisiana.....		2,862	8,004	13,248	26,468	5,970	5,841	5,348	2,673	19,832
Mississippi.....	49	7,222	40,176	50,516	76,459	10,851	10,695	15,125	10,522	47,193
North Carolina...	7,949	36,816	136,323	181,088	107,887	17,290	8,511	4,780	1,316	31,897
South Carolina....		2,130	8,124	14,609	45,537	2,764	2,751	4,024	2,459	11,998
Tennessee.....		607	9,164	9,771	24,890	9,657	15,818	12,163	6,144	43,782
Texas.....			9,294	9,294	31,537	6,983	7,809	6,279	3,639	24,710
Virginia.....		5,442	23,898	29,340	38,241	6,257	2,652	14,973	10,469	34,351
Total.....	10,550	65,411	307,014	*393,381	486,119	84,007	99,014	122,287	87,477	393,845
										1,273,345

* In the column headed "Prior to 1913," there are included 600 examinations for Arkansas, 2,389 for Louisiana, 3,089 for Mississippi, and 4,155 for South Carolina that cannot be itemized by years, because of a lack of uniformity in the early State records. The column "Prior to 1913" is consequently 10,406 examinations in excess of the total examinations reported for 1910, 1911, and 1912.

TABLE 14.—*Dispensary Summary.*
NUMBER OF SPECIMENS POSITIVE TO VARIOUS INTESTINAL PARASITES, BY DISPENSARIES, 1914.*

State	Total Number	Total Positive	Hook- worm	Ascaris	Oxyuris	Strongy- loides	Trich- ocephalus	Hymen- olepis	Taenia	Pro- tozoa	Others
Alabama.....	27,008	10,837	10,837	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas.....	27,724	4,400	2,366	351	25	21	28	499	13	.....	2
Georgia.....	40,417	25,021	24,580	504	7	14	10	273	6	.....	.....
Kentucky.....	63,545	32,175	19,820	22,623	58	12	5,482	912	2	.....	.....
Louisiana.....	19,530	7,134	7,068	446	20	.....	343	38	7	.....	.....
Mississippi.....	45,322	8,549	8,204	256	6	.....	16	192	5	.....	.....
North Carolina..	31,299	5,671	5,671	962	86	3	25	247	.....	8	.....
South Carolina..	11,095	4,794	4,486	730	75	9	5	95	19	.....	.....
Tennessee.....	43,235	18,328	9,817	9,908	1,046	.....	2,445	848	15	.....	1
Texas.....	24,463	4,365	4,343	.....	6	.....	.....	15	1	.....	.....
Virginia.....	32,905	14,999	4,301	10,980	493	.....	2,394	127	1	.....	.....
Total.....	366,543	136,273	101,493	46,760	1,822	59	10,748	3,246	69	8	3

* Findings other than hookworm are incidental.

TABLE 15.—*Dispensary Summary.*
NUMBER OF SPECIMENS POSITIVE TO VARIOUS INTESTINAL PARASITES, BY STATE LABORATORY, 1914.*

State	Total Number	Total Positive	Hook- worm	Ascaris	Oxyuris	Strongy- loides	Trich- ocephalus	Hymen- olepis	Taenia	Pro- tozoa	Others
Alabama.....	1,157	346	261	17	2	3	.....	22	.....	7	34
Arkansas.....	449	39	26	4	.....	.....	.....	7	2	.....	.....
Georgia.....	2,587	1,016	895	53	2	6	.....	55	3	.....	4
Kentucky.....	17,195	5,211	3,536	3,737	49	1	1,769	401	3	.....	.....
Louisiana.....	302	76	76	2	.....	.....	3	.....	.....	.....	.....
Mississippi.....	1,871	531	474	9	4	.....	2	42	.....	.....	.....
North Carolina..	1,103	287	226	46	1	3	4	14	6	.....	.....
South Carolina..	903	129	84	10	.....	1	.....	4	.....	.....	.....
Tennessee.....	547	138	54	27	1	.....	17	9	1	.....	34
Texas.....	247	68	62	6	.....	.....	.....	.....	.....	.....	.....
Virginia.....	1,446	385	176	199	10	.....	48	20	.....	.....	.....
Total.....	27,807	8,226	5,870	4,110	69	14	1,843	574	15	7	72

* Findings other than hookworm are incidental.

TABLE 16.—*Dispensary Summary.*
TOTAL NUMBER OF SPECIMENS POSITIVE TO VARIOUS INTESTINAL PARASITES, 1914.*

State	Total Number	Total Positive	Hook- worm	Ascaris	Oxyuris	Strongy- loides	Trich- ocephalus	Hymen- olepis	Taenia	Pro- tozoa	Others
Alabama.....	28,165	11,183	11,098	17	2	3	.....	22	.....	7	34
Arkansas.....	28,173	4,439	2,392	355	25	21	28	506	15	.....	2
Georgia.....	43,004	26,037	25,475	557	9	20	10	328	9	.....	4
Kentucky.....	80,740	37,386	23,356	26,360	107	13	7,251	1,313	5	.....	.....
Louisiana.....	19,832	7,210	7,144	448	20	.....	346	38	7	.....	.....
Mississippi.....	47,193	9,080	8,678	265	10	.....	18	234	5	.....	.....
North Carolina..	32,402	5,958	5,897	1,008	87	6	29	261	6	8	.....
South Carolina..	11,998	4,923	4,570	740	75	10	5	99	19	.....	.....
Tennessee.....	43,782	18,466	9,871	9,935	1,047	.....	2,462	857	16	.....	35
Texas.....	24,710	4,433	4,405	6	6	.....	.....	15	1	.....	.....
Virginia.....	34,531	15,384	4,477	11,179	503	.....	2,442	147	1	.....	.....
Total.....	394,350	144,499	107,363	50,870	1,891	73	12,591	3,820	84	15	75

* Findings other than hookworm are incidental.

TABLE 17.—*Dispensary Summary.*
NUMBER OF PERSONS TREATED FOR HOOKWORM DISEASE AT DISPENSARIES, BY YEARS.

State	1910	1911	1912	1913	1914 (by Quarters)				Grand Total
					1	2	3	4	
Alabama.....		15,389	9,113	8,077	655	4,095	5,521	670	10,941
Arkansas.....		350	1,412	3,517	635	436	375	245	1,691
Georgia.....		587	10,341	10,006	4,626	8,983	5,875	5,076	24,560
Kentucky.....			6,353	13,491	483	482	6,669	10,438	18,072
Louisiana.....		6,322	11,965	11,847	2,529	1,440	2,153	969	7,091
Mississippi.....		10,578	37,358	17,751	387	1,329	5,120	1,396	8,232
North Carolina.....		29,939	41,702	21,937	2,635	1,212	1,161	404	5,412
South Carolina.....		2,437	21,154	11,066	1,208	1,025	1,445	76	3,754
Tennessee.....			6,592	7,033	1,355	4,244	2,753	1,355	9,707
Texas.....			4,298	9,032	800	688	1,201	1,471	4,160
Virginia.....		619	5,632	6,557	291	136	1,693	2,181	4,301
Total.....		66,221	155,920	120,314	15,604	24,070	33,966	24,281	97,921
									440,376

TABLE 18.—*Dispensary Summary.*
NUMBER OF PERSONS TREATED FOR HOOKWORM DISEASE BY PHYSICIANS, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913	1914 (by Quarters)				Grand Total
						1	2	3	4	
Alabama.....				4,516	3,625					8,141
Arkansas.....				1,923	1,500					3,423
Georgia.....		7,228	6,887	14,115	5,733			8,702	5,732	34,282
Kentucky.....			15,750	15,750	29,720		11,270	6,843	2,194	20,307
Louisiana.....				7,530	5,011	359	249	112	28	748
Mississippi.....		15,803	10,201	26,004	5,614				7,200	38,818
North Carolina...	8,000	16,709	15,859	40,568	11,905	2,940	1,823	3,199	1,264	9,226
South Carolina....		1,774	10,840	12,614		312				312
Tennessee.....		666	584	1,250	262	18	125	82	130	355
Texas.....			3,230	3,230	1,685	183		201		384
Virginia.....		4,420	1,627	6,047	1,264	192			1,094	1,286
Total.....	8,000	46,600	64,978	*133,547	66,319	4,004	13,467	19,139	17,642	54,252
										254,118

* See note following Table No. 19.

TABLE 19.—*Dispensary Summary.*
TOTAL NUMBER OF PERSONS TREATED FOR HOOKWORM DISEASE, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913	1914 (by Quarters)				Grand Total	
						1	2	3	4		Total
Alabama.....		15,389	9,113	29,018	11,702	655	4,095	5,521	670	10,941	51,661
Arkansas.....		350	1,412	3,685	5,017	635	436	375	245	1,691	10,393
Georgia.....		7,815	17,228	25,043	15,739	4,626	8,983	14,577	10,808	38,994	79,776
Kentucky.....			22,103	22,103	43,211	483	11,752	13,512	12,632	38,379	103,693
Louisiana.....		6,322	11,965	25,817	16,858	2,888	1,689	2,265	997	7,839	50,514
Mississippi.....		26,381	47,559	73,940	23,365	387	1,329	5,120	8,596	15,432	112,737
North Carolina...	8,000	46,648	57,561	112,209	33,842	5,575	3,035	4,360	1,668	14,638	160,689
South Carolina.....		4,211	31,994	36,205	11,066	1,520	1,025	1,445	76	4,066	51,337
Tennessee.....		666	7,176	7,842	7,295	1,373	4,369	2,835	1,485	10,062	25,199
Texas.....			7,528	7,528	10,717	983	688	1,402	1,471	4,544	22,789
Virginia.....		5,039	7,259	12,298	7,821	483	136	1,693	3,275	5,587	25,706
Total.....	8,000	112,821	220,898	*355,688	186,633	19,608	37,537	53,105	41,923	152,173	694,494

* In the column headed "Prior to 1913" there are included 4,516 persons treated for Alabama, 1,923 for Arkansas, and 7,350 for Louisiana, that could not be itemised by years because of a lack of uniformity in the early State records. The column "Prior to 1913" is consequently 13,969 in excess of the total number of persons reported as treated for 1910, 1911, and 1912.

TABLE 20.—*Dispensary Summary.*

TREATMENTS BY DISPENSARIES FOR HOOKWORM DISEASE, 1914.

State	NUMBER OF PERSONS AND TIMES TREATED						Total No. of Persons Treated	Total No. of Treatments
	One	Two	Three	Four	Five	Six		
Alabama.....	10,941	2,442	350	43	7	1	10,941	13,784
Arkansas.....	1,691	286	109	3	2	2	1,691	2,093
Georgia.....	24,560	10,243	4,425	500	80	13	24,560	39,824
Kentucky.....	18,072	255	.....	.....	.....	.....	18,072	18,327
Louisiana.....	7,091	3,220	1,251	87	1	.....	7,091	11,650
Mississippi.....	8,232	7,644	7,030	32	2	2	8,232	22,942
North Carolina.....	5,412	3,779	3,106	105	19	10	5,412	12,431
South Carolina.....	3,754	3,174	2,692	2,457	424	.....	3,754	12,597
Tennessee.....	9,707	8,443	6,855	53	6	.....	9,707	25,064
Texas.....	4,160	724	71	5	.....	.....	4,160	4,960
Virginia.....	4,301	3,499	3,202	.....	.....	.....	4,301	11,002
Total.....	97,921	43,709	29,091	3,285	541	127	97,921	174,674

TABLE 21.—*Dispensary Summary.*
NUMBER OF PERSONS TREATED FOR PARASITES OTHER THAN HOOKWORM, 1914.

State	Ascaris	Oxyuris	Strongyloides	Trichocephalus	Hymenolepis	Taenia	Protozoa	Other Parasites	Total
Alabama.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas.....	47	11	2	14	214	8	.....	.....	296
Georgia.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kentucky.....	12,801	28	.....	4,362	657	.....	.....	.....	17,848
Louisiana.....	310	5	.....	49	15	2	.....	.....	381
Mississippi.....	256	6	.....	16	194	5	.....	.....	477
North Carolina.....	962	86	3	25	247	.....	8	.....	1,331
South Carolina.....	232	.....	10	.....	63	3	.....	.....	308
Tennessee.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Texas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Virginia.....	9,705	.....	.....	.....	.....	.....	.....	.....	9,705
Total.....	24,313	133	15	4,466	1,390	18	8	.....	30,346

TABLE 22.—*Enlisting the Physicians, All Years.*

State	Number Physicians in State	Number Reporting	Number Reporting Treat- ing Hookworm	Number Cases Reported Treated by Physicians
Alabama.....	2,350	.....	.....	8,141
Arkansas.....	3,200	1,158	547	3,423
Georgia.....	3,255	1,724	1,400	34,282
Kentucky.....	3,300	2,214	2,103	65,777
Louisiana.....	2,035	1,544	559	13,289
Mississippi.....	2,000	1,634	1,150	38,818
North Carolina.....	1,762	1,521	1,108	61,699
South Carolina.....	1,440	886	574	12,926
Tennessee.....	3,400	.....	740	1,867
Texas.....	2,365	1,552	585	5,299
Virginia.....	2,300	801	441	8,597
Total.....	27,407	13,034	9,207	254,118

TABLE 23.—*Putting a Stop to Soil Pollution.*
EDUCATING THE PEOPLE, ALL YEARS.

State	BY ADDRESSES				BY LITERATURE			
	PUBLIC	SCHOOL		SPECIAL	Number Letters Mailed	Number Pieces Literature Distributed		
		Number	Attendance					
	Number	Attendance	Number	Attendance	Number	Attendance		
Alabama.....	1,184	112,530	411	22,905	24	485	3,780	40,000
Arkansas.....	1,355	197,891	354	31,827	218	15,425	47,142	196,097
Georgia.....	2,579	178,975	266	13,017	63	3,363	39,208	315,812
Kentucky.....	2,776	357,633	1,061	29,220	219	30,702	31,614	303,189
Louisiana.....	1,703	217,329	261	21,395	76	3,996	50,654	339,397
Mississippi.....	2,644	251,577	2,685	188,867	172	8,804	78,334	592,727
North Carolina.....	1,495	121,392	1,977	21,881	62	5,008	68,084	932,711
South Carolina.....	68	8,484	90	7,834	21	2,524	18,211	69,276
Tennessee.....	1,043	140,345	154	13,611	146	2,301	22,043	285,955
Texas.....	1,046	59,757	407	46,472	78	7,183	31,818	206,278
Virginia.....	203	15,265	611	20,000	9	1,130	8,100	37,000
Total.....	16,096	1,661,178	8,277	417,029	1,088	80,921	398,988	3,318,442

TABLE 24.
COUNTY APPROPRIATIONS (BY YEARS).

State	1910	1911	1912	1913	1914 (by Quarters)				Grand Total	
					1	2	3	4		Total
Alabama.....	\$ 60 00	\$ 1,710 00	\$ 1,775 00	\$ 2,066 00	\$ 150 00	\$ 157 50	\$ 620 75	\$ 628 17	\$ 1,556 42	\$ 7,167 42
Arkansas.....	.....	50 00	205 94	3,716 45	500 00	550 00	600 00	268 60	1,918 60	5,890 99
Georgia.....	.....	300 00	2,950 00	2,642 50	400 00	1,375 00	837 20	1,147 24	3,759 44	9,651 94
Kentucky.....	.....	.....	1,950 00	4,400 00	274 00	400 00	1,005 00	950 00	2,629 00	8,979 00
Louisiana.....	.....	1,077 50	1,563 00	3,346 00	525 00	950 00	900 00	280 00	2,655 00	8,641 50
Mississippi.....	181 50	1,672 48	4,939 73	4,404 92	1,000 00	1,300 00	1,442 00	1,170 00	4,912 00	16,110 63
North Carolina.....	.....	4,250 36	10,161 59	11,227 16	250 00	250 00	.....	.....	500 00	26,139 11
South Carolina.....	.....	101 20	990 67	2,675 00	250 00	550 00	400 00	75 00	1,275 00	5,041 87
Tennessee.....	.....	450 00	1,350 00	1,721 65	610 68	850 00	1,250 00	500 00	3,210 68	6,732 33
Texas.....	.....	.....	4,100 00	6,300 00	.....	300 00	1,200 00	600 00	2,100 00	12,500 00
Virginia.....	.....	400 00	1,200 00	1,150 00	.....	300 00	135 00	100 00	535 00	3,285 00
Total.....	\$ 241 50	\$10,011 64	\$31,185 93	\$43,649 68	\$ 3,959 68	\$ 6,962 50	\$ 8,389 95	\$ 5,719 01	\$25,051 14	\$110,139 79

TABLE 25.
COUNTY EXPENDITURES (BY YEARS).

State	1911	1912	1913	1914 (by Quarters)				Grand Total
				1	2	3	4	
Alabama.....	\$ 1,086 60	\$ 974 90	\$ 1,174 40	\$ 118 70	\$ 373 20	\$ 493 24	\$ 348 43	\$ 1,333 57
Arkansas.....	50 00	131 90	1,460 81	778 35	1,025 84	602 29	272 47	2,678 95
Georgia.....	89 25	1,885 58	2,493 23	590 55	1,250 92	827 93	1,013 13	3,682 53
Kentucky.....	.....	1,750 00	3,750 00	190 00	850 00	1,205 00	950 00	3,195 00
Louisiana.....	502 50	1,613 00	2,837 70	825 00	1,054 94	900 00	280 00	3,059 94
Mississippi.....	943 67	4,258 93	5,122 38	519 14	791 61	1,286 40	756 57	3,353 72
North Carolina.....	3,431 95	8,161 36	7,788 86	1,335 66	961 16	.....	.....	2,268 82
South Carolina.....	47 05	600 87	768 53	345 37	470 80	185 29	25 50	1,026 96
Tennessee.....	.....	742 58	1,499 74	691 47	885 32	954 54	405 90	2,937 23
Texas.....	.....	1,059 97	5,284 35	966 75	1,304 10	1,389 50	893 98	4,554 33
Virginia.....	152 30	500 00	1,200 00	.....	100 00	535 00	250 00	885 00
Total.....	\$ 6,303 32	\$21,679 09	\$33,380 00	\$ 6,360 99	\$ 9,067 89	\$ 8,379 19	\$ 5,195 98	\$28,004 05
								\$ 90,366 46

TABLE 26.
EXPENDITURES OF COMMISSION (BY YEARS).

	1910	1911	1912	1913	1914 (by Quarters)				Grand Total
					First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
Alabama.....	\$1,505 93	\$10,278 37	\$12,055 76	\$13,889 55	\$4,000 45	\$4,000 43	\$4,035 82	\$4,035 82	\$16,072 52
Arkansas.....	4,514 15	12,117 33	12,703 62	14,529 24	3,974 55	3,474 50	3,725 25	3,860 34	15,034 64
Georgia.....	6,937 51	16,287 92	15,541 83	16,347 90	3,964 27	3,982 78	4,221 34	6,175 91	18,344 30
Kentucky.....	.....	.....	14,760 27	19,569 27	4,741 22	4,741 22	4,925 00	5,166 37	19,573 81
Louisiana.....	549 99	10,445 02	14,234 96	15,490 31	4,389 72	4,449 46	2,697 93	2,672 51	14,209 62
Mississippi.....	6,640 61	17,093 05	19,739 28	20,769 05	5,011 47	5,075 30	5,070 20	5,449 03	20,606 00
North Carolina..	9,462 72	18,392 59	19,187 96	17,470 51	3,476 26	3,062 52	3,057 33	3,167 80	12,763 91
South Carolina...	4,068 11	10,793 68	14,459 81	15,791 77	4,148 02	4,040 60	3,910 73	3,168 84	15,268 19
Tennessee.....	5,044 30	15,075 58	15,974 66	14,612 90	3,729 19	3,747 21	3,944 36	4,134 86	15,555 62
Texas.....	.....	.....	3,959 89	12,627 24	3,238 46	3,299 46	3,458 81	3,258 80	13,255 43
Virginia.....	8,627 18	14,843 92	13,925 94	14,462 09	3,409 19	3,425 82	3,686 12	4,036 11	14,557 24
Total for States	\$47,350 50	\$125,327 46	\$156,543 98	\$175,559 83	\$44,082 70	\$43,299 30	\$42,732 89	\$45,126 39	\$175,241 28
Administration ..	20,223 46	21,349 36	27,200 38	23,694 32	5,868 11	8,451 71	5,921 22	5,156 75	25,397 79
Grand total...	\$67,573 96	\$146,676 82	\$183,744 36	\$199,254 15	\$49,950 81	\$51,751 01	\$48,654 11	\$50,283 14	\$200,639 07
									\$797,888 36

TABLE 27.
PARTIAL RECORD OF COMMUNITY WORK DURING 1914 AS REPORTED BY STATE DIRECTORS.

STATE	COUNTY	COMMUNITY	Field Director	Dates	Area (Sq. Miles).	INFECTION SURVEY					SANITATION			
						Census	Examined	Infected	Treated	Cured	Number of Families in Community	WHEN WORK BEGAN		WHEN WORK ENDED
												No. of Fam-ilies With Privies	No. of Fam-ilies Without Privies	
Louisiana.....	Cameron.....	Cameron.....	McKinney.....	Oct. 2 Dec. 31	12 1,300	1,185	350	350	318	224	134	90	212	12
Louisiana.....	Livingston.....	Maurepas.....	Adams.....	Oct. 3 Dec. 31	45 1,017	759	263	260	6	189	135	54	150	39
Louisiana.....	Lincoln.....	Choudrant.....	Baucum.....	Oct. 10 Dec. 31	60 1,180	608	250	266	...	185	74	111	132	53
North Carolina	Sampson.....	Salisbury.....	Collinson.....	May 9 Sept. 30	25 875	754	251	251	145	168	71	97	149	19
North Carolina	Robeson.....	Philadelphus...	Absher.....	May 23 Oct. 17	23 941	766	217	177	12	186	67	119	186	.....
North Carolina	Nash.....	Red Oak.....	Champion.....	June 20 Nov. 14	30 1,135	1,091	281	228	30	199	109	90	199	.....
North Carolina	Columbus...	Hallsboro.....	Covington.....	Aug. 1 Dec. 5	63 1,245	1,237	479	479	93	245	94	151	245	.....
North Carolina	Nash.....	Mount Pleasant	Kibler.....	Sept. 19 Dec. 31	27 801	624	99	95	4	154	53	101	129	25
North Carolina	Sampson.....	Ingold.....	Collinson.....	Oct. 31 Dec. 31	25 551	365	102	91	10	115	38	77	115	.....
South Carolina	Spartanburg..	Reidville.....	Routh.....	Aug. 8 Dec. 9	16 1,088	329	59	3	...	188	111	77	116	72
South Carolina	Cherokee.....	Sunnyside.....	Rodgers.....	Aug. 29 Dec. 12	20 699	511	31	28	4	119	34	85	100	19
Virginia.....	Albemarle.....	Albemarle.....	Bray and Gault	May 1 Dec. 31	32 1,473	966	36	36	31	285	207	78	255	30

CHAPTER II.

SUMMARY OF ACTIVITIES AND RESULTS BY STATES.*

ALABAMA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
*Butler.....	Orr.....	924	647	70.0
Clay.....	Williams.....	215	180	83.7
DeKalb.....	Caldwell.....	275	43	15.6
Jackson.....	Williams.....	335	161	48.0
Fayette.....	Caldwell and Wil- liams.....	1,954	1,252	64.0
Franklin.....	Orr.....	295	61	20.7
Lee.....	Williams and Meri- wether.....	1,769	1,094	61.8
Macon.....	Caldwell and Wil- liams.....	924	312	33.7
Marion.....	Orr and Meriweth- er.....	1,618	834	51.5
Russell.....	Orr.....	331	144	43.5
Tallapoosa.....	Caldwell.....	1,890	534	28.3
Winston.....	Meriwether and Williams.....	2,053	1,920	94.0
Total.....		12,583	7,182	57.1

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Blount.....	Orr.....					17	101	118	1.44
*Butler.....	Orr.....					24	284	308	.77
Cherokee.....	Meriwether.....					74	107	181	4.09
Cullman.....	Caldwell.....					76	69	145	5.24
DeKalb.....	Caldwell.....					101	69	170	5.94
Fayette.....	Caldwell and Williams.....					91	64	155	5.87
Lawrence.....	Meriwether.....				1	44	81	126	3.69
Lee.....	Williams and Meriwether.....					34	120	154	2.21
Macon.....	Caldwell and Williams.....					128	87	215	5.95
Marion.....	Orr and Meriwether.....					9	109	118	.76
Russell.....	Orr.....	1				44	113	158	3.42
Tallapoosa.....	Caldwell.....					70	52	122	5.73
Winston.....	Meriwether and Williams.....				1	92	141	234	4.04
Total.....		1			2	804	1,397	2,204	3.72

* All summaries will be found in the tables in Chapter I.

* Second survey.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS					
				No. of Persons Exam- ined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					Total
						First	Second	Third	Fourth	Fifth	
Blount.....	Orr.....	\$150 00	\$32 85	203	22	27	10	10	12	.....	37
*Butler.....	Orr.....	105 70	1,553	1,492	790	851	347	71	.....	.....	1,281
Cherokee.....	Meriwether.....	46 16	492	36	36	36	.....	.....	.....	.....	36
Clay.....	Williams.....	28 17	28 17	437	210	206	2	.....	.....	.....	208
Cullman.....	Caldwell.....	39 25	169	52	56	56	6	1	.....	.....	63
DeKalb.....	Caldwell.....	100 00	42 00	474	61	61	38	8	8	.....	115
Fayette.....	Caldwell & Williams.....	157 50	157 50	4,249	1,981	1,981	609	53	12	6	2,661
Franklin.....	Orr.....	150 00	45 00	540	72	71	30	1	.....	.....	102
Jackson.....	Williams.....	49 00	627	180	180	180	21	.....	.....	.....	201
Lauderdale.....	Orr.....	200 00	89 00	40	.....	.....	.....	.....	.....	.....	.....
Lawrence.....	Meriwether.....	150 00	22 00	294	104	104	17	.....	.....	.....	121
Lee.....	Williams & Meriwether.....	162 50	162 50	3,772	1,467	1,467	282	36	.....	.....	1,785
Macon.....	Caldwell & Williams.....	150 00	83 70	1,821	452	498	169	50	5	1	1,724
Marion.....	Orr & Meriwether.....	110 00	110 00	3,504	1,263	1,263	456	49	.....	.....	1,768
Russell.....	Orr.....	35 00	35 00	491	157	157	44	10	.....	.....	211
Tallapoosa.....	Caldwell.....	150 00	127 49	3,764	773	773	163	30	6	.....	974
Winston.....	Meriwether & Williams.....	158 25	158 25	4,578	3,208	3,208	248	41	.....	.....	3,497
Total.....		\$1,556 42	\$1,333 57	27,008	10,837	10,941	2,442	350	43	7	13,784

* Second campaign.

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	1,157
Total number of specimens positive.....	346
Number of specimens positive to hookworm.....	261
Number of specimens positive to <i>Ascaris</i>	17
Number of specimens positive to <i>Hymenolepis</i>	22
Number of specimens positive to <i>Trichocephalus</i>	2
Number of specimens positive to <i>Oxyuris</i>	2
Number of specimens positive to <i>Taenia saginata</i>	3
Number of specimens positive to <i>Strongyloides</i>	7
Number of specimens positive to Protozoa.....	7
Number of specimens positive to other parasites.....	34

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	2,350
Number of physicians reporting.....	
Number of physicians reporting: "Treating Hookworm".....	
Number of cases reported treated by physicians.....	

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	3,780
Number of pieces of literature distributed.....	40,000
2. By Addresses:	
Number of public addresses delivered.....	642
Attendance upon public addresses.....	60,814
Number of school addresses delivered.....	53
Attendance upon school addresses.....	3,953
Number of special addresses delivered.....	10
Attendance upon special addresses.....	245

ARKANSAS.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
*Ashley	Jacocks	1,199	82	6.8
Hot Spring	Campbell	925	152	16.4
Phillips	Bradford	1,096	99	9.0
Pulaski	Fly	2,497	195	7.8
Arkansas	Fly	667	8	1.2
*Hempstead	Campbell	878	111	12.6
Jackson	Bradford	1,379	133	9.6
Jefferson	Fly	1,446	42	2.9
Little River	Campbell	472	84	17.8
Monroe	Bradford	559	95	17.0
Crittenden	Bradford	1,469	293	19.9
*Drew	Fly	326	49	15.0
Greene	Bradford	232	32	13.8
Madison	Fly	215	13	6.0
Marion	Fly	258	65	25.2
Montgomery	Campbell	202	26	12.9
Polk	Campbell	614	67	10.9
Scott	Campbell	210	14	6.7
Van Buren	Bradford	201	34	16.9
Cleburne	Bradford	206	18	8.7
Franklin	Fly	218	5	2.3
Howard	Campbell	357	60	16.8
Johnson	Fly	765	45	5.9
Pike	Campbell	539	83	15.4
Pope	Fly	611	28	4.6
Searcy	Bradford	478	33	6.9
Yell	Campbell	206	2	1.0
Total		18,225	1,868	10.2

* Second survey.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
*Ashley.....	Jacocks.....	.....	.....	.....	.....	131	285	416	3.1
*Hot Spring....	Campbell.....	.....	.....	.....	.....	31	223	254	1.2
Phillips.....	Bradford.....	.....	.....	.....	.....	375	669	1,044	3.6
Pulaski.....	Fly.....	.....	.....	.....	.....	484	366	850	5.7
Arkansas.....	Campbell.....	.....	.....	.....	.....	237	111	348	6.8
*Hempstead....	Bradford.....	.....	.....	.....	.....	42	107	149	2.8
Jackson.....	Fly.....	.....	.....	.....	.....	300	810	1,110	2.7
*Jefferson.....	Campbell.....	.....	.....	.....	.....	414	116	530	7.8
Little River...	Bradford.....	.....	.....	.....	.....	45	140	185	2.4
Monroe.....	Campbell.....	.....	.....	.....	.....	39	409	448	.87
Crittenden....	Bradford.....	.....	.....	.....	.....	152	1,162	1,314	1.2
*Drew.....	Fly.....	.....	.....	.....	.....	435	291	726	6.0
Madison.....	Campbell.....	.....	.....	.....	.....	29	221	250	1.2
Marion.....	Fly.....	.....	.....	.....	.....	16	167	183	.9
Polk.....	Campbell.....	.....	.....	.....	.....	67	239	306	2.2
Scott.....	Campbell.....	.....	.....	.....	.....	26	88	114	2.3
Chicot.....	Fly.....	.....	.....	.....	.....	205	60	265	7.7
Cleburne.....	Bradford.....	.....	.....	.....	.....	49	208	257	1.9
Franklin.....	Fly.....	.....	.....	.....	.....	122	74	196	6.2
Howard.....	Campbell.....	.....	.....	.....	.....	52	149	201	2.6
Johnson.....	Fly.....	.....	.....	.....	.....	184	318	502	3.7
Pike.....	Campbell.....	.....	.....	.....	.....	23	90	113	2.0
Pope.....	Fly.....	.....	.....	.....	.....	72	171	243	3.0
Searcy.....	Bradford.....	.....	.....	.....	.....	45	320	365	1.2
Total.....	.....	.....	.....	.....	.....	3,575	6,794	10,369	3.4

* Second survey.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	Amount Appro- priated	Amount Expended	EXAMINATIONS		TREATMENTS					
				No. of Persons Exam- ined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					
						First	Second	Third	Fourth	Fifth	Sixth Total
Ashley.....	Jacobs.		\$183 54	1,774	119	115	88	79	2	2	285
Hot Spring.....	Campbell.		169 26	1,239	171	157	5	1			163
Phillips.....	Bradford.		166 36	1,562	120	87	3				90
Pulaski.....	Fly.		259 19	3,188	218	276	88	18			382
Arkansas.....	Fly.		184 41	1,278	21	21	2				23
Hempstead.....	Campbell.	\$250 00	239 35	1,447	147	144	13	4			161
Jackson.....	Bradford.	250 00	143 60	2,277	177	72	1				73
Jefferson.....	Fly.		245 98	2,006	47	45	5				50
Little River.....	Campbell.	200 00	132 75	957	106	101	21				122
Monroe.....	Bradford.	150 00	79 75	1,260	145	53					53
Crittenden.....	Bradford.	200 00	150 68	2,421	391	157	30	1			187
Drew.....	Fly.		153 10	658	54	41	12	1			54
Chicot.....	Fly.		103 15	405	11	11	3	1			15
Greene.....	Bradford.			232	32						
Madison.....	Fly.			234	13						
Marion.....	Fly.			338	76	76					76
Montgomery.....	Campbell.			202	26						
Polk.....	Campbell.	200 00	136 10	1,210	81	78	5				83
Scott.....	Campbell.	200 00	59 26	439	20	12					12
Van Buren.....	Bradford.			201	34						
Cleburne.....	Bradford.	93 60	93 60	288	19	9					9
Franklin.....	Fly.			231	77						
Howard.....	Campbell.			448	77	53					53
Johnson.....	Fly.			995	56	56	10	5	1		72
Pike.....	Campbell.	175 00	88 99	651	87	69					69
Pope.....	Fly.			868	34	35					35
Searcy.....	Bradford.	200 00	80 88	709	51	23					23
Yell.....	Campbell.			206	2						
Total.....		\$1,018 00	\$2,678 95	27,724	2,342	1,691	286	109	3	2	2,093

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	449
Total number of specimens positive.....	39
Number of specimens positive to hookworm.....	26
Number of specimens positive to Ascaris.....	4
Number of specimens positive to Hymenolepis.....	7
Number of specimens positive to Trichocephalus.....	.....
Number of specimens positive to Oxyuris.....	.....
Number of specimens positive to Taenia saginata.....	2
Number of specimens positive to Strongyloides.....	.....
Number of specimens positive to Protozoa.....	.....
Number of specimens positive to other parasites.....	.....

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	3,200
Number of physicians reporting.....	.....
Number of physicians reporting: "Treating Hookworm".....	.....
Number of cases reported treated by physicians.....	.....

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	16,978
Number of pieces of literature distributed.....	49,762
2. By Addresses:	
Number of public addresses delivered.....	189
Attendance upon public addresses.....	20,949
Number of school addresses delivered.....	296
Attendance upon school addresses.....	31,827
Number of special addresses delivered.....	185
Attendance upon special addresses.....	14,548

GEORGIA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Baldwin.....	Wood.....	371	238	64.1
Banks.....	Verner.....	727	589	81.0
Bryan.....	Leonard.....	477	383	80.3
Chattahoochee..	Moore.....	288	202	70.1
Decatur.....	Wood.....	1,137	1,129	99.2
Early.....	Wood.....	223	203	91.0
Elbert.....	Verner.....	502	124	24.7
Emanuel.....	Whittle.....	1,820	1,752	96.2
Fayette.....	Leonard.....	202	57	28.2
Franklin.....	Verner.....	814	554	68.0
Gordon.....	Verner.....	204	34	16.6
Grady.....	Wood.....	1,433	1,424	99.4
Hart.....	Verner.....	295	54	18.3
Heard.....	Moore.....	206	72	35.0
Jackson.....	Verner.....	437	90	20.6
Jones.....	Whittle.....	202	106	52.5
Lumpkin.....	Verner.....	204	121	59.3
McDuffie.....	Riser.....	286	191	66.8
Mitchell.....	Wood.....	717	715	99.7
Miller.....	Wood.....	302	298	98.7
Milton.....	Moore.....	203	84	41.4
Montgomery....	Whittle.....	548	508	92.7
Newton.....	Riser.....	200	45	22.5
Oconee.....	Riser.....	217	48	22.1
Paulding.....	Leonard.....	215	62	28.8
Pike.....	Wood.....	224	56	25.0
Pulaski.....	Henry.....	469	323	68.9
Sumter.....	Henry.....	263	149	56.7
Tatnall.....	Whittle.....	798	646	81.0
Taylor.....	Wood.....	204	153	75.0
Telfair.....	Whittle.....	1,127	1,103	97.9
Terrell.....	Moore.....	213	71	33.3
Toombs.....	Whittle.....	541	533	98.5
Towns.....	Verner.....	365	277	75.9
Walker.....	Moore.....	228	58	25.4
Webster.....	Moore.....	268	195	72.8
Wheeler.....	Whittle.....	646	630	97.5
Total.....		17,576	13,277	75.5

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Baldwin.....	Wood.....	...	...	...	...	156	72	228	6.84
Banks.....	Verner.....	...	...	...	...	84	238	322	2.6
Bryan.....	Leonard.....	...	...	...	...	71	49	120	5.9
Chattahoochee..	Moore.....	...	...	...	1	413	51	465	8.9
Decatur.....	Wood.....	...	...	...	...	450	392	842	5.3
Early.....	Wood.....	...	...	...	...	246	197	443	5.5
Elbert.....	Verner.....	...	...	...	...	257	229	486	5.2
Emanuel.....	Whittle.....	...	...	...	...	200	112	312	6.4
Franklin.....	Verner.....	...	...	...	...	170	168	338	5.02
Grady.....	Fort.....	3	...	...	...	158	102	263	7.1
Hart.....	Verner.....	...	...	...	...	320	163	483	6.6
Jones.....	Whittle.....	...	...	...	...	58	104	162	3.5
McDuffie.....	Riser.....	...	...	...	...	72	48	120	6.0
Mitchell.....	Wood.....	1	...	...	...	272	171	444	6.3
Miller.....	Wood.....	4	...	...	...	119	58	181	8.7
Montgomery....	Whittle.....	...	...	...	...	99	105	204	4.8
Pulaski.....	Henry.....	...	...	...	...	121	22	143	8.4
Stewart.....	Henry.....	...	...	...	...	77	42	119	6.4
Sumter.....	Henry.....	...	...	...	...	304	90	394	7.7
Tattnall.....	Whittle.....	...	...	...	...	130	126	256	5.0
Telfair.....	Whittle.....	...	...	...	...	171	167	338	5.0
Toombs.....	Whittle.....	...	...	...	...	84	84	168	5.0
Towns.....	Verner.....	...	...	...	...	10	185	195	.51
Webster.....	Moore.....	...	...	...	1	80	50	131	6.3
Wheeler.....	Whittle.....	...	...	...	...	91	104	195	4.6
Total.....	.....	8	...	...	2	4,213	3,129	7,352	5.8

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	EXAMINATIONS			TREATMENTS						
		Amount Appropriated	Amount Expended	No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					
						First	Second	Third	Fourth	Fifth	Sixth. Total
Emanuel	Whittle	\$250 00	\$250 00	3,880	3,001	304	31	4	1	.....	3,341
Pulaski	Henry	150 00	100 07	829	395	42	6	2	.....	.....	3,444
Decatur	Wood	249 80	249 80	2,639	2,043	728	311	107	33	6	3,228
Grady	Wood	225 00	219 17	3,078	2,376	964	273	75	19	3	3,740
Stewart	Henry	150 00	77 49	328	136	98	55	1	1	.....	290
Sumter	Henry	150 00	119 42	533	223	9	3	1	.....	.....	236
Elbert	Verner	100 00	95 75	1,299	199	98	10	.....	.....	.....	307
Hart	Verner	100 00	91 74	660	100	100	10	.....	.....	.....	307
Tatnall	Whittle	100 00	220 31	3,553	2,004	812	175	1	.....	.....	111
Toombs	Whittle	177 24	177 24	3,022	1,908	890	351	7	.....	.....	2,987
Banks	Verner	100 00	100 00	1,628	958	695	155	.....	.....	.....	3,156
Mitchell	Wood	232 30	232 30	1,940	1,534	634	243	78	11	2	2,502
Montgomery	Whittle	174 90	174 90	2,490	1,392	1,405	576	254	1	.....	2,236
Towns	Verner	80 00	80 00	749	399	307	242	52	.....	.....	1,000
Webster	Moore	100 00	100 00	512	316	276	184	.....	.....	.....	776
Wheeler	Whittle	150 00	140 73	1,849	1,259	784	574	2	1	.....	2,624
Bryan	Leonard	100 00	74 06	1,012	592	470	419	2	.....	.....	1,483
Chattahoochee	Moore	100 00	90 20	420	230	124	49	.....	.....	.....	422
Early	Wood	100 00	99 62	808	664	159	28	2	.....	.....	816
Jackson	Verner	150 00	150 00	912	136	130	98	40	.....	.....	404
Jones	Whittle	150 00	150 00	1,039	429	261	101	11	.....	.....	905
McDuffie	Riser	150 00	83 15	416	251	222	174	71	4	.....	597
Miller	Wood	150 00	146 10	580	429	158	72	.....	.....	.....	594
Telfair	Whittle	220 00	220 00	3,006	2,397	1,228	522	24	2	1	4,172
Franklin	Verner	.....	97 90	1,588	855	197	71	10	.....	.....	1,133
Baldwin	Wood	.....	142 58	1,047	353	85	31	11	6	3	1,512
Total		\$3,759 44	\$3,682 53	40,417	24,580	10,243	4,425	500	80	16	39,824

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined	2,587
Total number of specimens positive	1,016
Number of specimens positive to hookworm	895
Number of specimens positive to Ascaris	53
Number of specimens positive to Hymenolepis	55
Number of specimens positive to Trichocephalus	2
Number of specimens positive to Oxyuris	3
Number of specimens positive to Taenia saginata	6
Number of specimens positive to Strongyloides	6
Number of specimens positive to Protozoa	4
Number of specimens positive to other parasites	4

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State	3,255
Number of physicians reporting	1,724
Number of physicians reporting: "Treating Hookworm"	974
Number of cases reported treated by physicians	14,434

VI. EDUCATING THE PEOPLE IN SANITATION.**(By Central Office and Field Directors Combined.)**

1. By Correspondence:	
Number of letters mailed	18,751
Number of pieces of literature distributed	39,465
2. By Addresses:	
Number of public addresses delivered	708
Attendance upon public addresses	44,719
Number of school addresses delivered	239
Attendance upon school addresses	13,017
Number of special addresses delivered	33
Attendance upon special addresses	1,610

KENTUCKY.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
*Breathitt.....	Shirley.....	267	222	83.1
*Pulaski.....	Steele.....	1,735	247	14.2
Shelby.....	Lock.....	1,468	14	.95
Total.....		3,470	483	13.9

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Adair.....	Lock.....					55	269	324	1.7
Carlisle.....	Richmond.....			47		342		389	11.8
Clinton.....	Curry.....			5		53	109	167	3.9
Jackson.....	Lock.....					18	218	236	.76
Knott.....	Curry.....		4		18	168	20	210	11.57
Larue.....	Steele.....	2		21	197	382	429	1,031	9.7
Letcher.....	Shirley.....					618	1,442	2,060	3.0
Livingston.....	Curry.....		126		8	168	36	338	33.52
Morgan.....	Shirley.....		3		108	2,191	1,548	3,850	6.45
Pendleton.....	Shirley.....	6	40		1927	870	127	2,970	20.4
Shelby.....	Lock.....	15			38	236	124	413	11.6
Wayne.....	Curry.....		10		6	34	171	221	5.5
*Fulton.....	Richmond.....				30	211		241	11.8
*Clay.....	Lock.....				1	243	1,038	1,282	1.93
Total.....		23	183	22	2384	5,589	5,531	13,732	9.66

* Second survey.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	EXAMINATIONS		TREATMENTS					
		Amount Appropriated	Amount Expended	No. of Persons Exam- ined	NUMBER OF PERSONS AND TIMES TREATED				
					First	Second	Third	Fourth	Total
Adair.....	County Health Officer	.....	.....	516	118	.....	.....	.....	118
Adair.....	Lock.....	.....	.....	2,882	892	.....	.....	.....	892
Breathitt.....	Lock.....	.....	.....	267	222	.....	.....	.....	222
Casey.....	Lock.....	.....	.....	215	100	.....	.....	.....	100
Clay.....	Shirley.....	\$200 00	.....	5,178	1,900	25	.....	.....	1,925
Clinton.....	Curry.....	100 00	.....	5,548	1,746	6	.....	.....	1,752
Clinton.....	Curry.....	\$100 00	.....	233	109	.....	.....	.....	109
Estill.....	Shirley.....	.....	.....	1,200	368	.....	.....	.....	.....
Fulton.....	Richmond.....	.....	.....	214	8	.....	.....	.....	.....
Graves.....	Richmond.....	.....	.....	374	11	.....	.....	.....	.....
Hart.....	McCormack.....	.....	.....	684	138	.....	.....	.....	.....
Jackson.....	Lock.....	55 00	.....	1,556	651	1	.....	.....	652
Johnson.....	Heizer.....	.....	.....	501	166	.....	.....	.....	.....
Knott.....	Curry.....	.....	.....	1,674	812	.....	.....	.....	812
Larue.....	County Health Officer	200 00	.....	2,658	422	68	.....	.....	490
Lawrence.....	Curry.....	.....	.....	765	191	.....	.....	.....	191
Lee.....	Steele.....	.....	.....	237	131	.....	.....	.....	131
Lee.....	Steele.....	.....	.....	3,966	1,572	.....	.....	.....	1,572
Letcher.....	Shirley.....	350 00	.....	4,494	2,236	22	.....	.....	2,258
Letcher.....	Shirley.....	.....	.....	274	101	.....	.....	.....	.....
Lewis.....	Steele.....	.....	.....	304	2	.....	.....	.....	.....
Livingston.....	Curry.....	250 00	.....	1,559	46	1	.....	.....	47
Lyon.....	Curry.....	.....	.....	277	4	.....	.....	.....	.....
McCracken.....	Richmond.....	.....	.....	273	3	.....	.....	.....	.....
McCreary.....	Steele.....	.....	.....	.....	.....	.....	.....	.....	.....
McLean.....	Steele.....	24 00	.....	233	19	.....	.....	.....	.....
Marshall.....	Richmond.....	.....	.....	231	6	.....	.....	.....	.....
Monroe.....	County Health Officer	.....	.....	342	53	.....	.....	.....	53
Montgomery.....	Shirley.....	.....	.....	276	.....	.....	.....	.....	.....
Morgan.....	Shirley.....	100 00	.....	4,222	1,871	11	.....	.....	1,882
Muhlenberg.....	Shirley.....	300 00	.....	2,913	1,311	4	.....	.....	1,355
Muhlenberg.....	Steele.....	.....	.....	256	12	.....	.....	.....	.....
Ohio.....	Steele.....	.....	.....	324	2	.....	.....	.....	.....
Oldham.....	McCormack.....	.....	.....	324	.....	.....	.....	.....	.....
Owsley.....	Steele.....	.....	.....	2,069	902	15	.....	.....	917
Pendleton.....	Shirley.....	400 00	.....	1,431	44	5	.....	.....	49
Perry.....	Steele.....	.....	.....	657	373	.....	.....	.....	.....
Pike.....	Steele.....	500 00	.....	6,276	3,180	68	.....	.....	3,248
Pike.....	Steele.....	.....	.....	300	121	.....	.....	.....	.....
Powell.....	Shirley.....	.....	.....	556	212	.....	.....	.....	.....
Pulaski.....	Steele.....	.....	.....	1,735	247	29	.....	.....	276
Russell.....	Lock.....	.....	.....	381	144	.....	.....	.....	.....
Shelby.....	Lock.....	250 00	.....	1,468	14	.....	.....	.....	14
Shelby.....	Lock.....	.....	.....	1,907	16	.....	.....	.....	16
Wayne.....	Curry.....	300 00	.....	2,120	566	.....	.....	.....	566
Total.....	.....	\$2,629 00	\$3,195 00	63,545	19,820	255	.....	.....	17,627

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	17,195
Total number of specimens positive.....	4,211
Number of specimens positive to hookworm.....	3,536
Number of specimens positive to Ascaris.....	3,737
Number of specimens positive to Hymenolepis.....	401
Number of specimens positive to Trichocephalus.....	1,769
Number of specimens positive to Oxyuris.....	49
Number of specimens positive to Taenia saginata.....	3
Number of specimens positive to Strongyloides.....	1
Number of specimens positive to Protozoa.....	
Number of specimens positive to other parasites.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	3,300
Number of physicians reporting.....	2,214
Number of physicians reporting: "Treating Hookworm".....	674
Number of cases reported treated by physicians.....	20,307

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	14,966
Number of pieces of literature distributed.....	203,868
2. By Addresses:	
Number of public addresses delivered.....	1,078
Attendance upon public addresses.....	107,482
Number of school addresses delivered.....	419
Attendance upon school addresses.....	29,220
Number of special addresses delivered.....	219
Attendance upon special addresses.....	30,702

LOUISIANA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Cameron.....	McKinney.....	615	132	21.5
Catahoula.....	Trezevant.....	1,563	597	38.2
Concordia.....	Trezevant.....	701	89	12.7
DeSota.....	McKinney.....	1,294	351	27.1
East Carroll...	Baucum.....	403	2	.5
Evangeline.....	McKinney.....	955	90	9.4
Franklin.....	Trezevant.....	2,254	818	36.3
Jeff Davis.....	McKinney.....	1,302	48	3.7
Madison.....	Baucum.....	439	7	1.6
Plaquemines.....	Baucum.....	216		
Richland.....	Baucum.....	860	141	16.4
St. John the Baptist.....	Trezevant.....	221	4	1.8
Terrebonne.....	Trezevant.....	226	35	15.5
West Carroll...	Baucum.....	454	69	15.2
*Washington....	Adams.....	1,493	1,218	81.6
*St. Tammany...	Adams.....	985	647	65.7
*Lincoln.....	Baucum.....	460	247	53.7
*Tangipahoa....	McKinney.....	1,429	612	42.8
*Union.....	Trezevant.....	1,976	1,098	55.6
	Total.....	17,846	6,205	34.8

* Second survey.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY						Sanitary Index
		A	B	C	D	E	F	Total
Cameron.....	McKinney.....					124	186	310
Cameron.....	McKinney.....							
†Cameron Comm	unity.....			22		112	90	224
Catahoula.....	Trezevant.....					154	76	230
Concordia.....	Trezevant.....					319	458	777
DeSota.....	McKinney.....					96	120	216
East Carroll.....	Baucum.....					109	110	219
Evangeline.....	McKinney.....					201	207	408
Franklin.....	Trezevant.....					320	55	375
Jeff Davis.....	McKinney.....					234	7	241
Lincoln.....	Baucum.....							
†Choudrant Com	munity.....					74	111	185
Livingston.....	Adams.....							
†Maurepas Com	munity.....				14	121	54	189
Madison.....	Baucum.....	3				157	42	202
Plaquemines....	Baucum.....		1		14	310		325
Richland.....	Baucum.....					207	65	272
St. John the								
Baptist.....	Trezevant.....			2	9	363	8	382
St. Tammany....	Adams.....				32	91	47	170
Terrebonne.....	Trezevant.....			7	12	227	12	308
West Carroll....	Baucum.....				50	123	98	221
*Washington....	Adams.....					216	150	366
*Lincoln.....	Baucum.....					88	127	215
*Tangipahoa....	McKinney.....					157	210	367
*Union.....	Trezevant.....					339	528	867
Total.....		3	8	14	141	4,142	2,761	7,069

* Second survey.

† Community work.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	COMMUNITY	Field Director	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS						
					No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED						
							First	Second	Third	Fourth	Fifth	Sixth	Total
Cameron.....		McKinney.....	\$200 00	\$200 00	615	132	132	132	132	.....	.....	.....	396
†Cameron.....	Cameron.....	McKinney.....	.....	.....	1,185	350	350	350	.....	.....	.....	.....	1,050
Catahoula.....		Tresvant.....	300 00	300 00	1,563	597	597	215	33	7	.....	.....	852
Concordia.....		Tresvant.....	200 00	200 00	42	89	89	13	.....	.....	.....	.....	102
DeSoto.....		McKinney.....	200 00	200 00	1,294	351	351	86	.....	.....	.....	.....	437
E. Carroll.....		Baucum.....	150 00	150 00	403	2	2	2	.....	.....	.....	.....	4
Evangeline.....		McKinney.....	200 00	200 00	955	90	90	83	.....	.....	.....	.....	173
Franklin.....		Tresvant.....	300 00	300 00	2,254	818	811	477	223	61	.....	.....	1,572
Jeff Davis.....		McKinney.....	300 00	300 00	1,302	48	48	45	71	2	.....	.....	93
†Lincoln.....		Baucum.....	80 00	80 00	759	263	266	251	9	.....	.....	.....	590
†Livingston.....	Choudrant.....	Adams.....	175 00	175 00	439	7	7	7	.....	.....	.....	.....	14
Madison.....	Maurepas.....	Baucum.....	.....	.....	216	.....	147	153	45	.....	.....	.....	345
Plaquemines.....		Baucum.....	225 00	225 00	860	141	141	.....	.....	.....	.....	.....	.....
Richland.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. John the Baptist.....		Tresvant.....	.....	.....	12	4	4	.....	.....	.....	.....	.....	4
Terrebonne.....		Tresvant.....	.....	.....	226	35	35	.....	.....	.....	.....	.....	35
W. Carroll.....		Baucum.....	175 00	175 00	454	69	67	64	24	.....	.....	.....	155
*Washington.....		Adams.....	100 00	100 00	1,493	1,218	1,220	411	145	5	.....	.....	1,781
*St. Tammany.....		Baucum.....	100 00	100 00	1,985	647	631	238	111	12	1	.....	993
*Lincoln.....		Baucum.....	150 00	150 00	460	247	274	206	85	.....	.....	.....	565
*Tangipahoa.....		McKinney.....	200 00	200 00	1,429	612	612	267	23	.....	.....	.....	902
*Union.....		Tresvant.....	200 00	200 00	1,976	1,098	1,098	120	.....	.....	.....	.....	1,218
Total.....			\$2,655 00	\$3,069 94	19,530	7,068	7,091	3,220	1,251	87	1	.....	11,650

* Second campaign. † Community work.

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	302
Total number of specimens positive.....	76
Number of specimens positive to hookworm.....	76
Number of specimens positive to <i>Ascaris</i>	2
Number of specimens positive to <i>Hymenolepis</i>	2
Number of specimens positive to <i>Trichocephalus</i>	3
Number of specimens positive to <i>Oxyuris</i>	3
Number of specimens positive to <i>Taenia saginata</i>.....	.....
Number of specimens positive to <i>Strongyloides</i>.....	.....
Number of specimens positive to <i>Protozoa</i>.....	.....
Number of specimens positive to other parasites.....	.....

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	2,035
Number of physicians reporting.....	111
Number of physicians reporting: "Treating Hookworm".....	54
Number of cases reported treated by physicians.....	748

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	6,271
Number of pieces of literature distributed.....	88,155
2. By Addresses:	
Number of public addresses delivered.....	211
Attendance upon public addresses.....	27,363
Number of school addresses delivered.....	261
Attendance upon school addresses.....	21,395
Number of special addresses delivered.....	37
Attendance upon special addresses.....	2,758

MISSISSIPPI.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Attala.....	Dedwylder.....	660	188	28.5
Benton.....	Boswell.....	1,879	267	14.2
Bolivar.....	Applewhite.....	408	20	4.9
Carroll.....	Whitfield.....	2,888	46	1.6
Choctaw.....	Whitfield.....	368	53	14.4
Coahoma.....	Boswell.....	790	1	.13
DeSota.....	Applewhite and Dedwylder.....	700	3	.43
Harrison.....	Rowan.....	366	253	69.1
Issaquena.....	Applewhite.....	840	4	.48
Lamar.....	Whitfield.....	633	515	81.4
Marshall.....	Boswell and Buchanan.....	257	4	1.6
Monroe.....	Boswell.....	994	526	52.9
Montgomery.....	Whitfield.....	1,151	159	13.8
Neshoba.....	Rowan.....	206	152	73.8
Panola.....	Applewhite.....	1,250	9	.72
Pontotoc.....	Applewhite.....	2,274	123	5.4
Quitman.....	Dedwylder.....	1,238	23	1.86
Sharkey.....	Dedwylder.....	1,121	6	.54
Sunflower.....	Whitfield.....	1,858	27	1.45
Tallahatchie.....	Whitfield.....	1,235	11	.8
Tate.....	Whitfield.....	402	1	.25
Tunica.....	Boswell.....	678	0	0.0
Washington.....	Buchanan.....	1,112	0	0.0
Yalobusha.....	Dedwylder.....	570	13	2.3
Yazoo.....	Buchanan.....	2,481	14	.56
*Itawamba.....	Boswell.....	538	330	61.3
*Forrest.....	Whitfield.....	440	314	71.4
*Jackson.....	Dedwylder.....	442	255	57.7
*Jones.....	Buchanan and Dedwylder.....	1,408	1,161	82.5
†Jeff Davis.....	Dedwylder.....	1,476	698	47.3
Total.....		30,663	5,176	16.8

* Second survey.

† Third survey.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY						Sanitary Index
		A	B	C	D	E	F	Total
Attala.....	Dedwylder.....					355	337	692
Benton.....	Boswell.....					16	271	287
Bolivar.....	Applewhite.....	57				143	52	252
Choctaw.....	Whitfield.....					20	88	108
Coahoma.....	Boswell.....	6	5			189	146	346
De Sota.....	Applewhite and Dedwylder.....					123	240	363
Issaquena.....	Applewhite.....	1				160	140	301
Monroe.....	Boswell.....					191	412	603
Panola.....	Applewhite.....	2				181	109	292
Pontotoc.....	Applewhite.....					160	230	390
Quitman.....	Dedwylder.....			20		771	462	1,253
Sharkey.....	Dedwylder.....		10	12		420	385	827
Sunflower.....	Whitfield.....	1				132	65	198
Tallahatchie.....	Whitfield.....					35	93	128
Tate.....	Whitfield.....					38	124	162
Tunica.....	Boswell.....					78	190	268
Warren.....	Dedwylder.....					255	205	460
Washington.....	Buchanan.....					938	130	1,068
Yalobusha.....	Dedwylder.....					303	270	573
Yazoo.....	Buchanan.....					967	124	1,091
*Pearl River.....	Buchanan.....					250	57	307
*Itawamba.....	Boswell.....					5	221	226
*Lamar.....	Whitfield.....					79	61	140
*Jackson.....	Applewhite and Dedwylder.....	2		8		260	176	446
*Jones.....	Buchanan and Dedwylder.....					512	378	890
*Marshall.....	Buchanan.....					392	146	538
Total.....		69	15	40		6,973	5,112	12,209

* Second survey.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS					
				No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					Total
						First	Second	Third	Fourth	Fifth	
Attala.....	Applewhite and Dedwylder.....	\$200.00	\$200.00	1,317	221	221	203	203	.....	.....	627
Benton.....	Boswell.....	145.12	2,919	345	345	346	346	346	.....	.....	1,039
Bolivar.....	Applewhite.....	200.00	515	23	23	23	23	23	.....	.....	68
Choctaw.....	Whitfield.....	.....	418	73	.....	.....	.....	.....	.....	.....	6
Coahoma.....	Boswell.....	.....	1,305	2	2	2	2	2	.....	.....	6
DeSota.....	Applewhite and Dedwylder.....	.....	112.45	.....	.....	.....	.....	.....	.....	.....	.....
Issaquena.....	wylder.....	200.00	95.85	4	4	3	3	3	.....	.....	9
Itawamba.....	Applewhite.....	200.00	1,215	5	5	5	5	5	.....	.....	15
Jeff Davis.....	Boswell.....	125.00	1,208	499	498	325	304	2	2	.....	1,133
LeFlore.....	Dedwylder.....	.....	2,498	848	1,033	1,033	1,033	.....	.....	.....	3,099
Marshall.....	Buchanan.....	.....	253	4	4	4	4	4	.....	.....	12
Monroe.....	Boswell.....	267.00	2,477	816	791	791	791	791	.....	.....	2,373
Nolan.....	Applewhite.....	200.00	121.22	12	12	12	12	12	.....	.....	36
Pontotoc.....	Applewhite.....	200.00	3,029	150	149	149	149	149	.....	.....	447
Quitman.....	Dedwylder.....	200.00	80.55	24	24	24	24	24	.....	.....	72
Sharkey.....	Dedwylder.....	200.00	1,401	8	8	8	8	8	.....	.....	24
Sunflower.....	Whitfield.....	200.00	165.52	28	28	28	28	28	.....	.....	84
Tallahatchie.....	Whitfield.....	200.00	164.17	22	22	22	22	22	.....	.....	24
Tate.....	Whitfield.....	200.00	83.45	5	5	1	1	1	.....	.....	2
Tunica.....	Boswell.....	250.00	1,071	2	2	2	2	2	.....	.....	6
Warren.....	Dedwylder.....	50.00	30	.....	.....	.....	.....	.....	.....	.....	.....
Washington.....	Buchanan.....	200.00	106.55	2,351	.....	.....	.....	.....	.....	.....	.....
Yalobusha.....	Dedwylder.....	100.00	90.00	13	13	13	13	13	.....	.....	39
Yazoo.....	Buchanan.....	250.00	1,082	1,082	1,082	1,082	1,082	1,082	.....	.....	3,736
*Pearl River.....	Buchanan and Culley.....	200.00	158.38	28	28	28	28	28	.....	.....	84
*Forrest.....	Whitfield.....	200.00	200.00	1,293	1,218	1,218	1,218	30	.....	.....	1,674
*Lamar.....	Applewhite and Whitfield.....	250.00	249.91	1,501	571	554	549	549	.....	.....	1,674
*Jackson.....	Dedwylder.....	200.00	208.60	1,792	921	958	954	395	.....	.....	2,307
*Jones.....	Buchanan and Dedwylder.....	200.00	193.00	1,501	514	520	520	520	.....	.....	1,560
Total.....	.....	\$4,912.00	\$3,353.72	2,819	1,716	1,714	1,390	1,362	.....	.....	4,466
				45,322	7,756	8,232	7,044	7,030	32	2	22,942

* Second campaign.

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	1,871
Total number of specimens positive.....	531
Number of specimens positive to hookworm.....	474
Number of specimens positive to <i>Ascaris</i>	9
Number of specimens positive to <i>Hymenolepis</i>	42
Number of specimens positive to <i>Trichocephalus</i>	2
Number of specimens positive to <i>Oxyuris</i>	4
Number of specimens positive to <i>Taenia saginata</i>	
Number of specimens positive to <i>Strongyloides</i>	
Number of specimens positive to Protozoa.....	
Number of specimens positive to other parasites.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	2,000
Number of physicians reporting.....	424
Number of physicians reporting: "Treating Hookworm".....	323
Number of cases reported treated by physicians.....	7,200

VI. EDUCATING THE PEOPLE IN SANITATION.
(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	1,850
Number of pieces of literature distributed.....	61,453
2. By Addresses:	
Number of public addresses delivered.....	657
Attendance upon public addresses.....	47,793
Number of school addresses delivered.....	1,096
Attendance upon school addresses.....	64,078
Number of special addresses delivered.....	28
Attendance upon special addresses.....	1,245

NORTH CAROLINA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Ashe.....	Doane and Leonard	226	20	8.85
Brunswick.....	Washburn.....	208	157	75.5
Chatham.....	Absher.....	748	98	13.1
Columbus.....	Covington,			
† Hallsboro Com	munity.....	419	245	58.5
Davidson.....	Leonard.....	3,076	782	25.4
Graham.....	Absher.....	370	297	80.3
Granville.....	Collinson.....	1,716	313	18.2
Nash.....	Champion,			
† Red Oak Comm	unity.....	416	219	52.6
Nash.....	Kibler,			
† Mt. Pleasant C	ommunity.....	227	57	25.1
Onslow.....	Sloan.....	350	308	88.0
Orange.....	Doane.....	622	67	10.8
Randolph.....	Doane.....	936	185	19.8
Robeson.....	Absher,			
† Philadelphus C	ommunity.....	259	95	36.7
Sampson.....	Collinson,			
† Salemburg Com	munity.....	76	40	52.6
Stanly.....	Washburn.....	1,970	55	2.79
*Edgecombe.....	Absher.....	494	146	29.6
*Forsyth.....	Doane.....	1,620	385	23.8
*Wake.....	Washburn.....	867	300	34.6
	Total.....	14,600	3,769	25.8

*Second survey.

†Community work.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Ashe.....	Doane.....	.....	.....	.....	.....	67	169	236	2.84
Columbus.....	Covington,	.....	.....	.....	.....	.....	.....	.....	.....
† Hallsboro co	community.....	.....	.....	1	1	94	177	273	3.72
Graham.....	Absher.....	.....	.....	3	2	14	124	143	2.37
Granville.....	Collinson.....	10	.....	.....	.....	319	35	364	11.5
Nash.....	Champion,	.....	.....	.....	.....	.....	.....	.....	.....
† Red Oak com	munity.....	.....	2	.....	.....	113	110	225	5.69
Nash.....	Kibler,	.....	.....	.....	.....	.....	.....	.....	.....
† Mt. Pleasant	community.....	.....	.....	.....	27	23	98	148	6.11
New Hanover..	Leonard,	.....	.....	.....	.....	.....	.....	.....	.....
† Wrightsboro	Castle Haynes	.....	.....	.....	.....	.....	.....	.....	.....
community.....	.....	3	2	8	30	140	43	226	13.3
Orange.....	Doane.....	1	.....	.....	.....	64	164	229	3.2
Robeson.....	Absher,	.....	.....	.....	.....	.....	.....	.....	.....
† Philadelphus	community.....	.....	1	.....	1	86	182	270	3.56
Sampson.....	Collinson,	.....	.....	.....	.....	.....	.....	.....	.....
† Salemburg co	munity.....	3	.....	.....	.....	68	131	202	4.85
Sampson.....	Collinson,	.....	.....	.....	.....	.....	.....	.....	.....
† Ingold comm	unity.....	.....	.....	.....	.....	51	85	136	3.7
*Edgecombe....	Absher.....	1	.....	.....	.....	142	68	211	7.2
*Wilson.....	Collinson..	.....	.....	.....	.....	155	50	205	7.56
*Forsyth.....	Doane.....	6	.....	.....	4	191	121	322	8.1
*Wake.....	Washburn..	.....	.....	2	13	77	34	126	9.48
Total.....	.....	24	5	14	78	1,604	1,591	3,316	6.47

* Second surveys.

† Community work.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	COMMUNITY	Field Director	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS					
					No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					
							First	Second	Third	Fourth	Fifth	Sixth Total
Chatham.		Absher.	.....	\$150 00	1,834	144	144	134	131	6	.....	415
†Columbus.		Covington.	.....	.....	1,335	532	530	278	106	46	15	985
†Currituck.		Leonard.	.....	.....	1,609	37	29	7	1	.....	.....	37
Davidson.		Absher.	.....	.....	7,577	1,230	1,200	1,022	979	5	.....	3,206
Graham.		Leonard.	.....	275 67	820	377	377	206	130	15	3	3,732
Granville.		Collinson.	.....	133 84	2,815	370	356	302	259	2	.....	919
†Nash.		Champion.	.....	236 82	1,091	281	228	54	10	.....	.....	292
†Nash.		Kibler.	.....	.....	635	100	96	9	.....	.....	.....	105
†New Hanover.		Leonard.	.....	.....	212	31	24	2	.....	.....	.....	26
Orange.		Doane.	.....	180 51	1,515	98	97	97	97	2	.....	293
†Randolph.		Doane.	.....	215 21	1,805	227	226	226	226	.....	.....	678
†Robeson.		Absher.	.....	.....	943	296	232	186	110	9	.....	537
†Sampson.		Collinson.	.....	.....	885	327	308	38	21	1	.....	388
†Sampson.		Collinson.	.....	.....	480	163	147	97	9	1	.....	258
Stanly.		Washburn.	.....	215 40	3,895	72	172	68	41	5	.....	186
*Edgecombe.		Absher.	.....	209 80	599	136	172	161	151	7	.....	491
*Oswalo.		Sloan.	.....	155 71	624	435	386	258	207	1	.....	852
*Wake.		Washburn.	.....	183 04	1,177	341	339	218	213	.....	.....	770
*Wilson.		Collinson.	.....	108 92	1,168	45	43	23	22	.....	.....	88
*Forsyth.		Doane.	.....	250 00	1,795	407	406	393	393	1	.....	1,193
Total.			\$500 00	\$2,296 82	30,794	5,649	5,412	3,779	3,106	105	19	12,431

* Second campaign. † Community work.

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	1,103
Total number of specimens positive.....	287
Number of specimens positive to hookworm.....	226
Number of specimens positive to Ascaris.....	46
Number of specimens positive to Hymenolepis.....	14
Number of specimens positive to Trichocephalus.....	4
Number of specimens positive to Oxyuris.....	1
Number of specimens positive to Taenia saginata.....	6
Number of specimens positive to Strongyloides.....	3
Number of specimens positive to Protozoa.....	
Number of specimens positive to other parasites.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	1,762
Number of physicians reporting.....	181
Number of physicians reporting: "Treating Hookworm".....	119
Number of cases reported treated by physicians.....	9,226

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	20,475
Number of pieces of literature distributed.....	74,670
2. By Addresses:	
Number of public addresses delivered.....	344
Attendance upon public addresses.....	27,991
Number of school addresses delivered.....	242
Attendance upon school addresses.....	21,641
Number of special addresses delivered.....	60
Attendance upon special addresses.....	4,928

SOUTH CAROLINA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
*Clarendon.....	Rodgers.....	259	202	78.0
Florence.....	Riser.....	213	141	66.2
*Marlboro.....	Routh.....	172	115	66.9
*Richland.....	Howell.....	481	239	49.7
*Aiken.....	Riser.....	371	250	67.4
Lee.....	Routh.....	251	111	44.2
*Marion.....	Howell.....	302	222	73.5
*Greenville.....	Howell.....	311	134	43.0
Kershaw.....	Howell.....	555	420	75.7
Saluda.....	Howell.....	796	32	4.0
Total.....		3,711	1,866	50.3

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Kershaw.....	Howell.....					67	173	240	2.8
Saluda.....	Howell.....					120	105	225	5.3
Spartanburg....	Routh.....								
† Reidville com	munity.....	8	1			123	78	210	10.
Cherokee.....	Rodgers.....								
† Sunnyside co	munity.....					34	85	119	2.9
Horry.....	Howell.....								
† Myrtle Beach	community....					26	42	68	3.8
Beaufort.....	Routh.....								
† Penn School	community....					8	15	23	3.5
Total.....		8	1			378	498	885	5.3

*Second Survey.

† Community work.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	COMMUNITY	Field Director	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS						
					No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED						
							First	Second	Third	Fourth	Fifth	Sixth	Total
*Clarendon ..		Rodgers.	\$100 00	\$104 20	756	417	420	316	256	195	3	..	1,190
*Florence ..		Riser.	..	22 57	359	177	129	75	63	61	..	..	328
*Marlboro. .		Routh.	..	109 30	522	264	263	211	200	193	7	..	881
*Richland. .		Howell.	..	27 10	966	403	396	360	360	329	28	..	1,473
*Abbeville. .		Rodgers.	..	..	153	13	10	6	5	3	..	..	24
*Aiken.		Rodgers.	..	72 00	1,094	386	366	348	133	106	1	..	954
*Lee.		Riser.	..	135 00	339	128	128	91	95	95	..	..	409
*Marion.		Routh.	..	73 80	688	391	391	345	340	338	122	..	1,536
*Williamsburg		Howell.	..	100 00	252	130	130	82	33	14	1	..	260
*Charleston .		Riser.	..	145 00	337	142	151	112	73	51	..	..	387
*Cherokee. .		Rodgers.	..	48 00	730	181	181	151	137	98	10	..	577
*Dillon.		Routh.	..	37 29	318	213	213	169	159	156	13	6	716
*Greenville .		Howell.	..	100 00	747	181	178	138	138	138	46	19	657
*Kershaw. .		Howell.	..	150 00	1,575	722	722	722	654	641	179	64	2,982
*Saluda.		Howell.	..	75 00	1,072	45	45	38	38	38	14	..	173
*Spartanburg	Reidville.	Routh.	..	25 50	329	59	3	..	..	..	..	..	3
*Sunnyside. .	Sunnyside.	Rodgers.	..	..	511	31	28	10	8	1	..	..	47
*Cherokee. .	Myrtle Beach	Howell.	..	..	249	123	..	..	..	..	..	..	..
*Horry.	Howell.	Routh.	..	..	98	11	..	..	..	..	..	..	..
*Beaufort. .	Penn School.	Routh.	..	..	..	..	..	..	..	..	..	..	..
Total.			\$1,275 00	\$944 76	11,095	4,017	3,754	3,174	2,692	2,457	424	96	12,597

* Second campaign. † Community work.

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	903
Total number of specimens positive.....	129
Number of specimens positive to hookworm.....	84
Number of specimens positive to Ascaris.....	10
Number of specimens positive to Hymenolepis.....	4
Number of specimens positive to Trichocephalus.....	
Number of specimens positive to Hxyuris.....	
Number of specimens positive to Taenia saginata.....	
Number of specimens positive to Strongyloides.....	1
Number of specimens positive to Protozoa.....	
Number of specimens positive to other parasites.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	1,440
Number of physicians reporting.....	886
Number of physicians reporting: "Treating Hookworm".....	574
Number of cases reported treated by physicians.....	312

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	18,211
Number of pieces of literature distributed.....	69,276
2. By Addresses:	
Number of public addresses delivered.....	68
Attendance upon public addresses.....	8,484
Number of school addresses delivered.....	90
Attendance upon school addresses.....	8,914
Number of special addresses delivered.....	21
Attendance upon special addresses.....	2,524

TENNESSEE.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Bedford.....	Townsend.....	419	4	.95
Claiborne.....	Rude.....	1,724	475	27.6
Grainger.....	Rude.....	799	117	14.6
Hamblen.....	Robinson.....	620	118	19.0
Hancock.....	Robinson.....	1,052	702	66.7
Hardeman.....	Robinson.....	204	31	15.19
Hardin.....	Graves.....	202	35	17.3
Hawkins.....	Robinson.....	1,862	729	39.1
Haywood.....	Robinson.....	236	2	.8
Henry.....	Rude.....	209	50	23.9
James.....	Yancey.....	240	88	36.7
Lauderdale.....	Rude.....	207	61	29.5
Lawrence.....	Yancey.....	216	13	6.0
Loudon.....	Townsend.....	1,068	368	34.5
Marshall.....	Yancey.....	207	2	.9
Monroe.....	Townsend.....	1,982	949	47.9
Polk.....	Townsend.....	1,016	556	54.7
Scott.....	Rude.....	1,202	636	52.9
Sevier.....	Yancey.....	1,469	794	54.0
Unicoi.....	Yancey.....	200	72	36.0
Union.....	Townsend and Rude.....	1,135	177	15.6
Wilson.....	Robinson.....	213	4	1.88
*Jefferson.....	Yancey.....	1,002	173	17.3
*Knox.....	Lee.....	1,232	246	19.9
Total.....		18,716	6,402	34.2

* Second survey.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Bedford.....	Townsend.....	.....	.....	.....	.....	128	43	171	7.48
Claiborne.....	Rude.....	.....	.....	.....	2	127	143	272	4.85
Coffee.....	Graves.....	.....	.....	.....	.....	145	103	248	5.8
Gibson.....	Townsend.....	.....	.....	.....	.....	114	74	188	6.
Grainger.....	Rude.....	.....	.....	1	3	114	163	281	4.4
Grundy.....	Yancey.....	.....	.....	.....	.....	28	112	140	2.
Hamblen.....	Robinson.....	.....	.....	.....	4	78	118	200	4.4
Hancock.....	Robinson.....	.....	.....	.....	.....	14	186	200	.7
Hardeman.....	Robinson.....	.....	.....	.....	3	45	227	275	1.9
Hardin.....	Graves.....	.....	.....	.....	.....	93	126	219	4.3
Haywood.....	Robinson.....	.....	.....	.....	.....	33	256	289	1.1
Henderson.....	Robinson.....	.....	.....	.....	.....	26	131	157	1.6
Henry.....	Rude.....	.....	.....	.....	4	70	144	218	3.7
Houston.....	Graves.....	.....	.....	.....	.....	130	42	172	7.6
James.....	Yancey.....	.....	.....	.....	3	59	156	218	3.0
Lauderdale.....	Rude.....	.....	.....	.....	17	73	150	240	4.8
Lawrence.....	Yancey.....	.....	.....	.....	7	139	65	211	7.4
Loudon.....	Townsend.....	.....	.....	.....	.....	85	93	178	4.8
Marshall.....	Yancey.....	.....	.....	.....	10	184	24	218	9.6
Monroe.....	Townsend.....	.....	.....	.....	.....	95	109	204	4.7
Perry.....	Graves.....	.....	.....	.....	.....	176	58	234	7.5
Polk.....	Townsend.....	.....	.....	.....	1	87	115	203	4.4
Scott.....	Rude.....	.....	.....	.....	1	56	211	268	2.19
Sullivan.....	Robinson.....	.....	.....	2	4	80	14	100	10.
Unicoi.....	Yancey.....	.....	.....	.....	5	45	153	203	2.8
Union.....	Townsend and Rude.....	.....	.....	.....	.....	123	127	250	4.9
Weakley.....	Robinson.....	.....	.....	.....	.....	94	259	353	2.7
Wilson.....	Robinson.....	.....	.....	.....	5	103	32	140	8.3
*Jefferson.....	Yancey.....	.....	9	36	.....	52	92	189	15.8
*Knox.....	Lee.....	2	.....	.....	26	150	46	224	10.5
*Sevier.....	Yancey.....	.....	.....	1	8	58	154	221	3.8
Total.....	.....	2	9	40	103	2,804	3,726	6,684	5.0

* Second surveys.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS					
				No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					
						First	Second	Third	Fourth	Fifth	Sixth Total
Bedford.....	Townsend.	\$250 00	\$71 81	488	5	5	614	542	.....	.....	5
Clabornie.....	Rude.....	.....	237 45	4,264	700	700	.....	.....	.....	.....	1,856
Coffee.....	Graves.....	.....	.....	164	6	.....	.....	.....	.....	.....	.....
Gibson.....	Townsend.	.....	.....	83	.....	.....	.....	.....	.....	.....	.....
Grainger.....	Rude.....	250 00	183 85	2,114	144	144	116	101	1	.....	362
Greene.....	Yancey.....	.....	.....	81	31	26	91	97	2	.....	216
Grundy.....	Yancey.....	.....	.....	76	42	24	.....	.....	.....	.....	24
Hamblien.....	Yancey.....	110 68	110 68	2,298	202	202	186	182	4	1	575
Hancock.....	Robinson.....	100 00	146 27	2,544	1,119	1,119	912	891	9	3	2,934
Hardeman.....	Robinson.....	.....	.....	204	31	23	23	23	.....	.....	69
Hardin.....	Graves.....	.....	.....	242	35	.....	.....	.....	.....	.....	.....
Hawkins.....	Robinson.....	250 00	263 65	4,026	981	981	958	933	15	2	2,889
Haywood.....	Robinson.....	.....	.....	262	2	.....	.....	.....	.....	.....	.....
Henderson.....	Townsend and Robinson.	.....	.....	137	41	17	.....	.....	.....	.....	17
Houston.....	Graves.....	.....	.....	141	2	.....	.....	.....	.....	.....	.....
James.....	Yancey.....	.....	.....	.....	39	39	.....	.....	.....	.....	39
Jefferson.....	Yancey.....	250 00	219 48	2,039	275	270	261	221	.....	.....	752
Knox.....	Yancey.....	.....	174 70	2,647	374	374	309	115	.....	.....	798
Lauderdale.....	Rude and Morgan.	.....	.....	207	61	.....	.....	.....	.....	.....	.....
Lawrence.....	Yancey.....	250 00	186 61	2,497	3	6	.....	.....	.....	.....	6
Loudon.....	Townsend.	.....	.....	24	.....	.....	.....	.....	.....	.....	.....
Marshall.....	Yancey.....	250 00	186 61	2,497	483	483	414	326	6	.....	1,229
Monroe.....	Lee.....	250 00	237 95	12	.....	.....	.....	.....	.....	.....	.....
Perry.....	Graves.....	.....	.....	4,817	1,444	1,444	1,156	754	2	.....	3,356
Polk.....	Townsend.	250 00	220 31	184	4	.....	.....	.....	.....	.....	.....
Scott.....	Rude and Yancey.	250 00	165 28	2,265	837	837	623	306	11	.....	1,777
Sevier.....	Yancey.....	250 00	177 63	2,102	772	772	764	510	.....	.....	2,046
Sullivan.....	Robinson.....	250 00	246 22	3,296	1,204	1,187	1,094	1,012	.....	.....	3,293
Sullivan.....	Robinson.....	250 00	177 63	1,459	214	214	186	165	3	.....	588
Union.....	Yancey.....	250 00	168 81	1,315	523	523	582	517	451	.....	1,550
Union.....	Townsend and Rude.	250 00	126 53	2,703	258	258	219	206	.....	.....	683
Weakley.....	Robinson.....	.....	.....	267	4	.....	.....	.....	.....	.....	.....
Wilson.....	Robinson.....	.....	.....	297	20	.....	.....	.....	.....	.....	.....
Total.....	.....	\$3,210 68	\$2,937 23	43,235	9,817	9,707	8,443	6,855	53	6	25,064

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	547
Total number of specimens positive.....	138
Number of specimens positive to hookworm.....	54
Number of specimens positive to Ascaris.....	27
Number of specimens positive to Hymenolepis.....	9
Number of specimens positive to Trichocephalus.....	17
Number of specimens positive to Oxyuris.....	1
Number of specimens positive to Taenia saginata.....	
Number of specimens positive to Strongyloides.....	
Number of specimens positive to Protozoa.....	
Number of specimens positive to other parasites.....	34

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	3,400
Number of physicians reporting.....	25
Number of physicians reporting: "Treating Hookworm".....	60
Number of cases reported treated by physicians.....	355

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	4,700
Number of pieces of literature distributed.....	74,800
2. By Addresses:	
Number of public addresses delivered.....	285
Attendance upon public addresses.....	58,124
Number of school addresses delivered.....	154
Attendance upon school addresses.....	1,364
Number of special addresses delivered.....	24
Attendance upon special addresses.....	2,301

TEXAS.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Colorado.....	Ferrell.....	221	2	.9
Galveston.....	Judkins.....	1,898	9	.47
Kaufman.....	Brownlee.....	608	118	19.4
Sabine.....	Ferrell.....	496	350	70.6
Wharton.....	Judkins.....	1,806	39	2.15
Freestone.....	Brownlee.....	1,064	499	46.8
Washington.....	Ferrell.....	624	10	1.6
Hunt.....	Brownlee.....	1,008	26	2.6
Fort Bend.....	Judkins.....	1,018	3	.29
Burleson.....	Judkins.....	380	46	12.1
Milam.....	Davis.....	376	39	10.4
Anderson.....	Davis.....	1,047	369	35.1
Nacogdoches....	Judkins and Outlaw.....	1,034	505	48.8
Red River.....	Outlaw.....	286	56	19.6
Upshur.....	Thorne.....	250	157	62.8
Falls.....	Judkins.....	492		
Cass.....	Thorne.....	1,351	1,151	85.2
Total.....		13,959	3,379	24.2

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

County	Surveyed by	TYPE OF PRIVY							Sanitary Index
		A	B	C	D	E	F	Total	
Colorado.....	Ferrell.....				151	60		211	20.7
Galveston.....	Judkins.....	333	12	23	160	264		792	53.0
Kaufman.....	Brownlee.....			20	22	404	610	1,056	5.3
Sabine.....	Ferrell.....					275	30	305	9.0
Wharton.....	Judkins.....	108		20	95	184	22	429	37.3
Freestone.....	Brownlee.....	3				85	1,608	1,696	.67
Washington.....	Ferrell.....			50	210	30		290	27.7
Hunt.....	Brownlee.....	122	10		6	465	145	748	23.7
Fort Bend.....	Judkins.....	20	14	40	97	202	68	441	21.5
Burleson.....	Judkins.....			6	16	38	314	374	2.9
Milam.....	Davis.....		15	3	4	59	725	806	2.4
Bell.....	Thorne.....	60				15	450	525	11.7
Anderson.....	Davis.....	7	30	1		16	357	411	7.7
Nacogdoches....	Judkins and Outlaw.....	122			24	80	173	399	34.
Red River.....	Outlaw.....	20				32	467	519	4.47
Upshur.....	Thorne.....					4	97	101	.39
Falls.....	Judkins.....	52		28	73	95	57	305	30.7
Cass.....	Thorne.....				2	21	884	907	.29
Total.....		847	81	191	860	2,329	6,007	10,315	14.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS						
				No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED						
						First	Second	Third	Fourth	Fifth	Sixth	Total
Colorado.....	Ferrell.....		\$252 00	476	4	4	.....	.....	.....	.....	.....	4
Galveston.....	Judkins.....		148 00	2,539	13	13	.....	.....	.....	.....	.....	22
Kaufman.....	Brownlee.....		300 00	2,571	242	242	.....	.....	.....	.....	.....	261
Sabine.....	Ferrell.....		266 75	1,340	558	541	107	3	.....	.....	.....	656
Wharton.....	Judkins.....		237 40	1,933	50	50	35	8	.....	.....	.....	85
Freestone.....	Brownlee.....		294 80	1,975	593	593	41	.....	.....	.....	.....	634
Washington.....	Ferrell.....		289 00	1,065	10	10	.....	.....	.....	.....	.....	10
Hunt.....	Brownlee.....		246 90	1,081	31	31	9	.....	.....	.....	.....	40
Fort Bend.....	Judkins.....	\$300 00	236 00	1,098	4	4	.....	.....	.....	.....	.....	4
Burleson.....	Judkins.....		281 85	1,030	69	69	25	6	.....	.....	.....	100
Milam.....	Davis.....		289 00	822	62	60	15	.....	.....	.....	.....	75
Bell.....	Thorne.....		300 00	560	2	2	.....	.....	.....	.....	.....	2
Anderson.....	Davis.....		228 35	1,793	462	462	188	3	1	.....	.....	654
Nacogdoches.....	Outlaw and Judkins.....		300 00	1,990	608	608	235	35	2	.....	.....	880
Red River.....	Outlaw.....		291 95	526	70	70	36	9	1	.....	.....	116
Upshur.....	Thorne.....		295 98	250	157	.....	.....	.....	.....	.....	.....	.....
Hill.....	Davis.....		.....	168	1	.....	.....	.....	.....	.....	.....	.....
Fannin.....	Outlaw.....		.....	73	5	.....	.....	.....	.....	.....	.....	.....
Bastrop.....	Boerner.....		.....	52	1	.....	.....	.....	.....	.....	.....	.....
Falls.....	Judkins.....		298 00	733	.....	.....	.....	.....	.....	.....	.....	.....
Cass.....	Thorne.....		300 00	1,788	1,401	1,401	12	3	1	.....	.....	1,417
Total.....		\$2,100 00	\$4,554 33	24,463	4,343	4,160	724	71	5	.....	.....	4,960

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	247
Total number of specimens positive.....	68
Number of specimens positive to hookworm.....	62
Number of specimens positive to <i>Ascaris</i>	6
Number of specimens positive to <i>Hymenolepis</i>	
Number of specimens positive to <i>Trichocephalus</i>	
Number of specimens positive to <i>Oxyuris</i>	
Number of specimens positive to <i>Taenia saginata</i>	
Number of specimens positive to <i>Strongyloides</i>	
Number of specimens positive to Protozoa.....	
Number of specimens positive to other parasites.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	*2,365
Number of physicians reporting.....	241
Number of physicians reporting: "Treating Hookworm".....	46
Number of cases reported treated by physicians.....	384

* Only 2,365 physicians included in mailing list.

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	10,319
Number of pieces of literature distributed.....	134,414
2. By Addresses:	
Number of public addresses delivered.....	485
Attendance upon public addresses.....	20,419
Number of school addresses delivered.....	258
Attendance upon school addresses.....	28,405
Number of special addresses delivered.....	32
Attendance upon special addresses.....	2,402

VIRGINIA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Northampton..	Brumfield.....	1,645	20	1.2
Madison.....	Brumfield.....	1,330	93	7.0
Greene.....	Brumfield.....	359	20	5.6
Frederick.....	Booth.....	771	24	3.1
Page.....	Traynham.....	1,306	86	6.6
Rappahannock..	Traynham.....	210	6	2.9
Loudon.....	Booth.....	239	19	7.9
Cumberland...	Traynham.....	377	45	11.9
Warwick.....	Traynham.....	218	6	2.8
Powhatan.....	Traynham.....	529	18	3.4
Scott.....	Flanagan.....	4,188	901	21.5
York.....	Traynham.....	211	10	4.8
Buchanan.....	Flanagan.....	1,896	1,011	53.3
Alleghany.....	Booth.....	766	31	4.0
Bath.....	Booth.....	541	20	3.7
Craig.....	Booth.....	434	3	.7
Highland.....	Booth.....	631	27	4.3
Culpeper.....	Flanagan.....	594	2	.3
Charles City...	Traynham.....	453	26	5.7
New Kent.....	Traynham.....	313	36	11.5
*Albemarle.....	Miss Gault.....	1,326	48	3.6
Total.....		18,337	2,452	13.4

* Second survey.

III. WORK OF COUNTY DISPENSARIES.

COUNTY	FIELD DIRECTOR	Amount Appropriated	Amount Expended	EXAMINATIONS		TREATMENTS					
				No. of Persons Examined	No. of Persons Infected	NUMBER OF PERSONS AND TIMES TREATED					
						First	Second	Third	Fourth	Fifth	Sixth Total
Northampton.....	Brunfield.....			1,645	20	20	20				40
Madison.....	Brunfield.....			1,330	93	93	93				186
Greene.....	Brunfield.....			518	33	33	33				53
Fredrick.....	Booth.....			1,062	37	37	24				61
Happahannock.....	Traynham.....			470	22	22	6				28
Fluvanna.....	Miller.....			277	42	42	42				84
Loudon.....	Booth.....			239	19	19	19				19
Cumberland.....	Traynham.....	\$100 00	\$100 00	948	54	54	54				162
Nottoway.....	Booth.....			114	1	1	1				3
*Albemarle.....	Gault and Bray.....	135 00	135 00	2,228	76	76	6				82
Powhatan.....	Traynham.....	100 00	100 00	1,397	48	48	48				144
Warwick.....	Traynham.....	50 00	50 00	605	20	20	20				60
York.....	Traynham.....	50 00	50 00	298	13	13	13				39
Scott.....	Traynham.....		250 00	11,863	1,616	1,616	1,114				3,844
Buchanan.....	Flanagan.....	100 00	200 00	4,803	1,952	1,952	1,952				5,856
Alleghany.....	Booth.....			766	31	31	31				31
Bath.....	Booth.....			541	20	20	20				20
Craig.....	Booth.....			434	3	3					3
Page.....	Traynham.....			1,330	91	91	86				177
Highland.....	Booth.....			631	27	27	27				27
Charles City.....	Traynham.....			453	26	26	26				26
New Kent.....	Traynham.....			313	36	36	36				36
Southampton.....	C. Office.....			46	19	19	19				19
Culpeper.....	Flanagan.....			594	2	2	2				2
Total.....		\$535 00	\$885 00	32,905	4,301	4,301	3,499	3,202			11,002

* Community work.

IV. WORK OF STATE LABORATORY.

	Total During 1914
Total number of specimens examined.....	1,446
Total number of specimens positive.....	385
Number of specimens positive to hookworm.....	176
Number of specimens positive to Ascaris.....	199
Number of specimens positive to Hymenolepis.....	20
Number of specimens positive to Trichocephalus.....	48
Number of specimens positive to Oxyuris.....	10
Number of specimens positive to Taenia saginata.....	.....
Number of specimens positive to Strongyloides.....	.....
Number of specimens positive to Protozoa.....	.....
Number of specimens positive to other parasites.....	.....

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

Number of physicians in the State.....	2,300
Number of physicians reporting.....	801
Number of physicians reporting: "Treating Hookworm".....	441
Number of cases reported treated by physicians.....	1,286

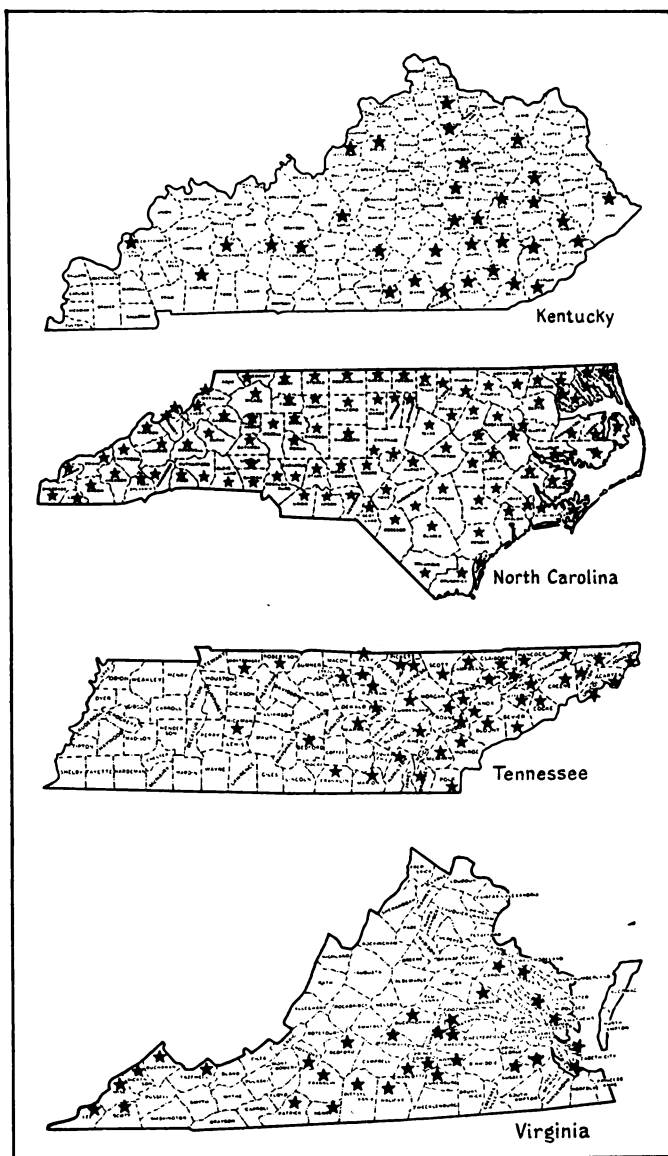
VI. EDUCATING THE PEOPLE IN SANITATION.

(By Central Office and Field Directors Combined.)

1. By Correspondence:	
Number of letters mailed.....	8,100
Number of pieces of literature distributed.....	37,000
2. By Addresses:	
Number of public addresses delivered.....	203
Attendance upon public addresses.....	15,265
Number of school addresses delivered.....	611
Attendance upon school addresses.....	20,000
Number of special addresses delivered.....	9
Attendance upon special addresses.....	1,130

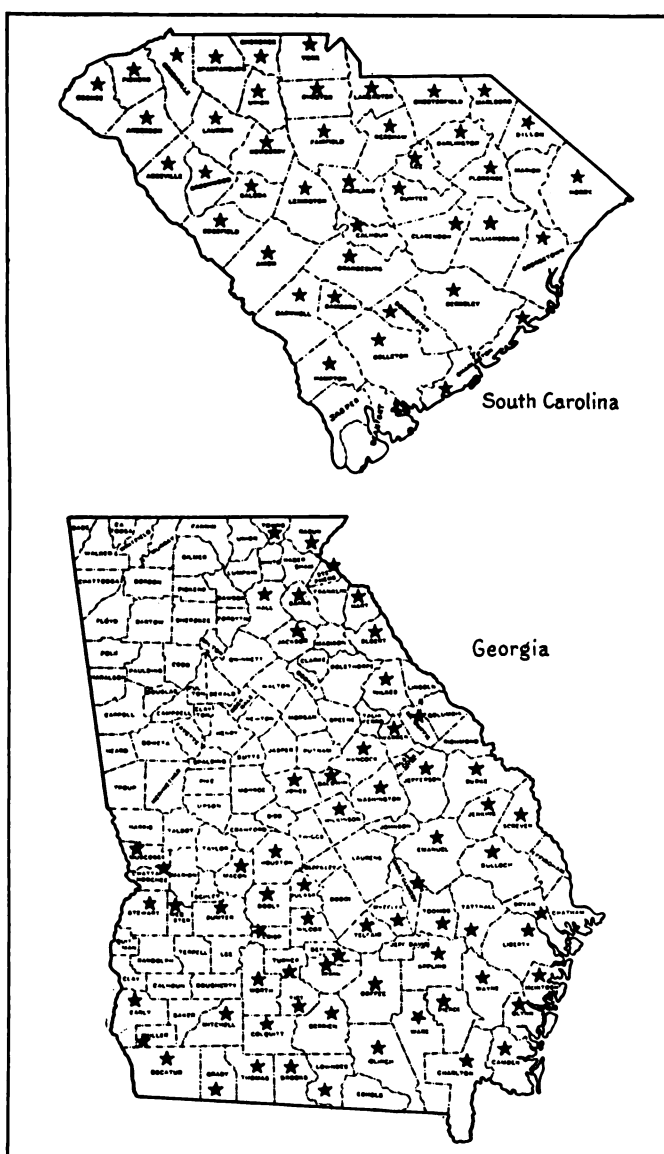
CHAPTER III.

MAPS AND HALF-TONE ILLUSTRATIONS

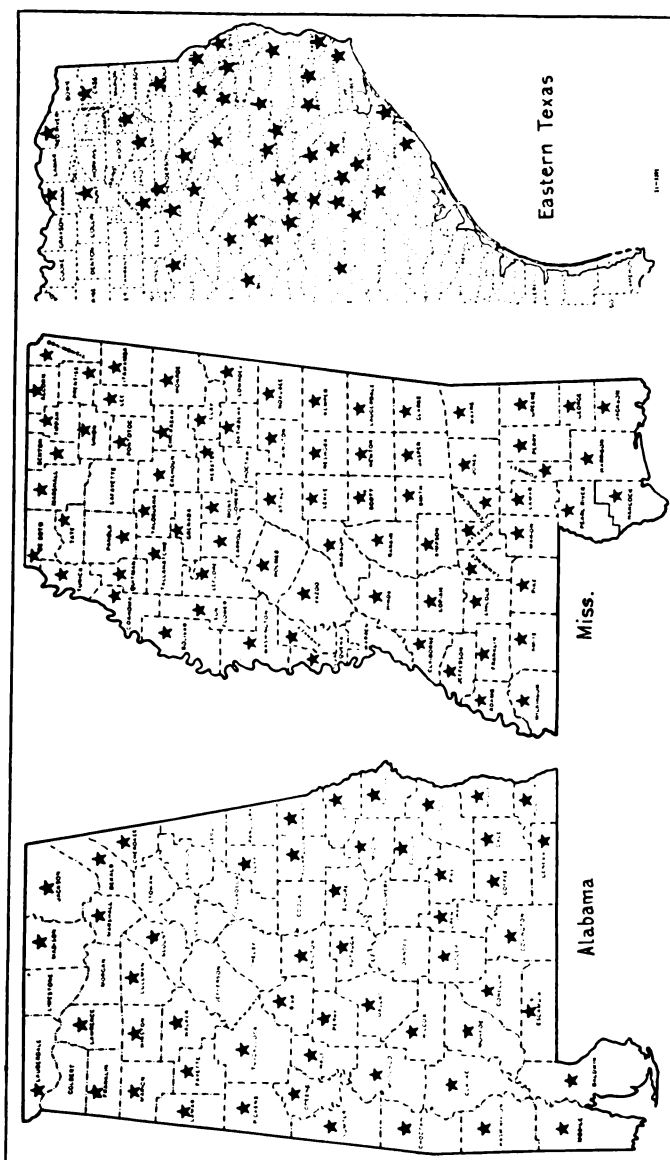


Extent of dispensary work in eleven Southern States.

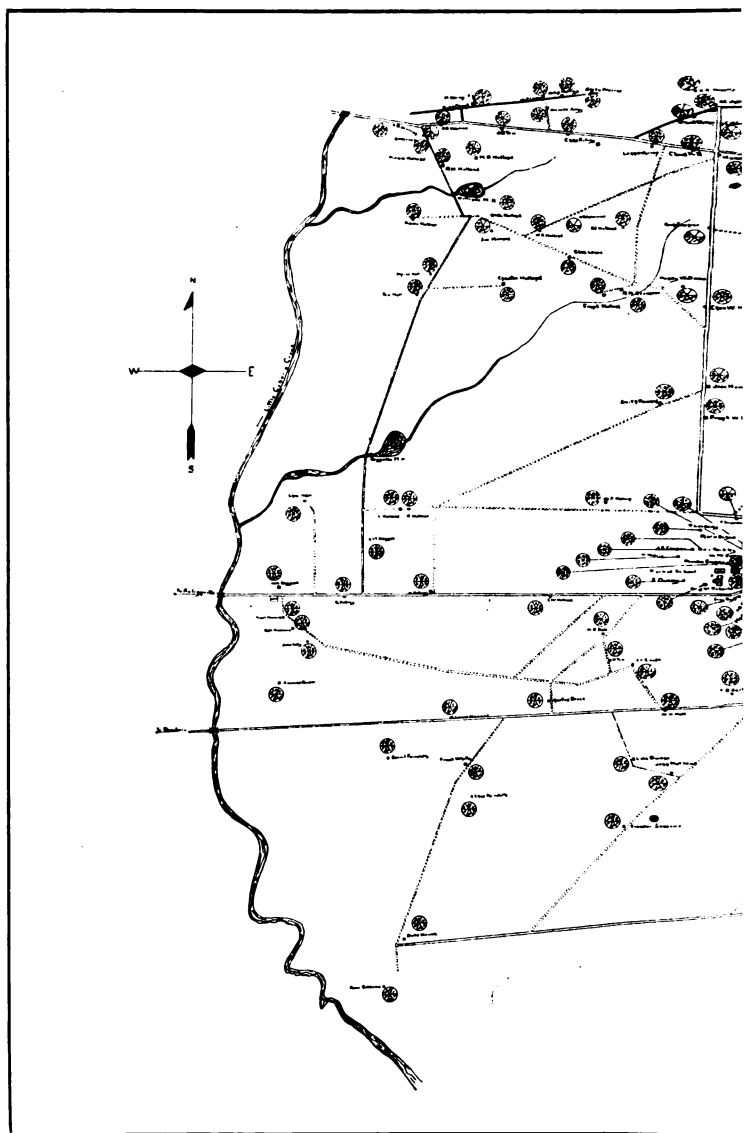
Star denotes counties in which dispensaries have been conducted for the free examination and treatment for hookworm disease.



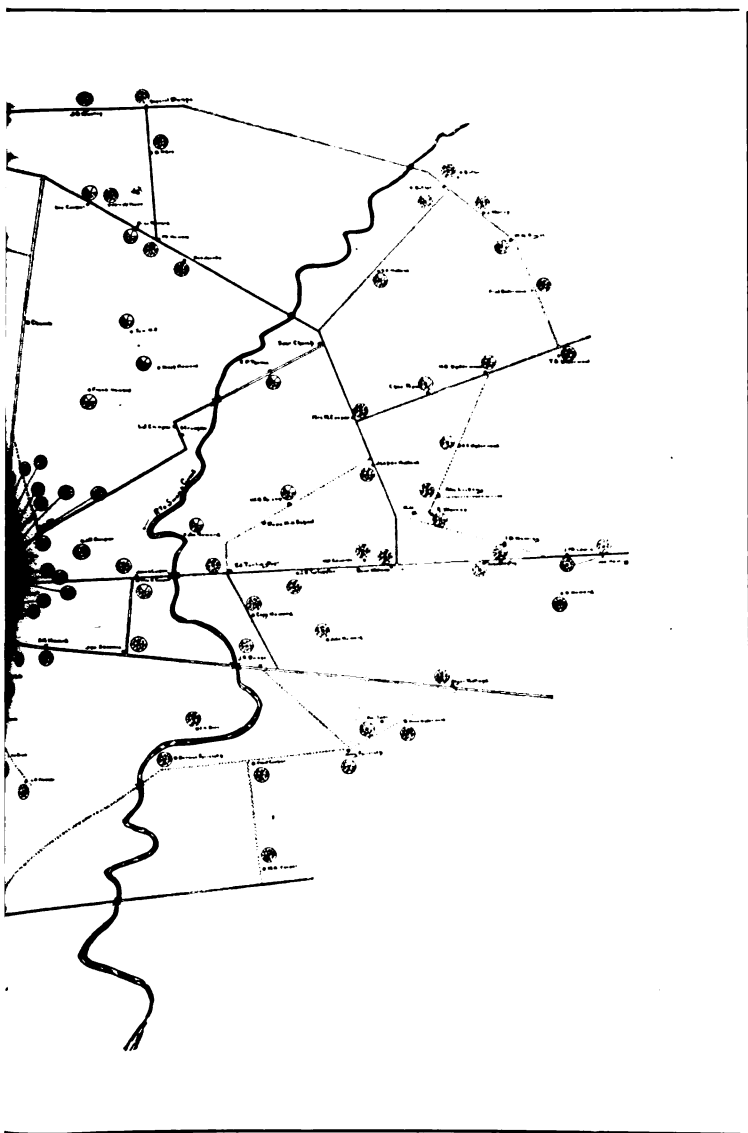
Extent of dispensary work in eleven Southern States.
 Star denotes counties in which dispensaries have been conducted for the free examination and treatment for hookworm disease.



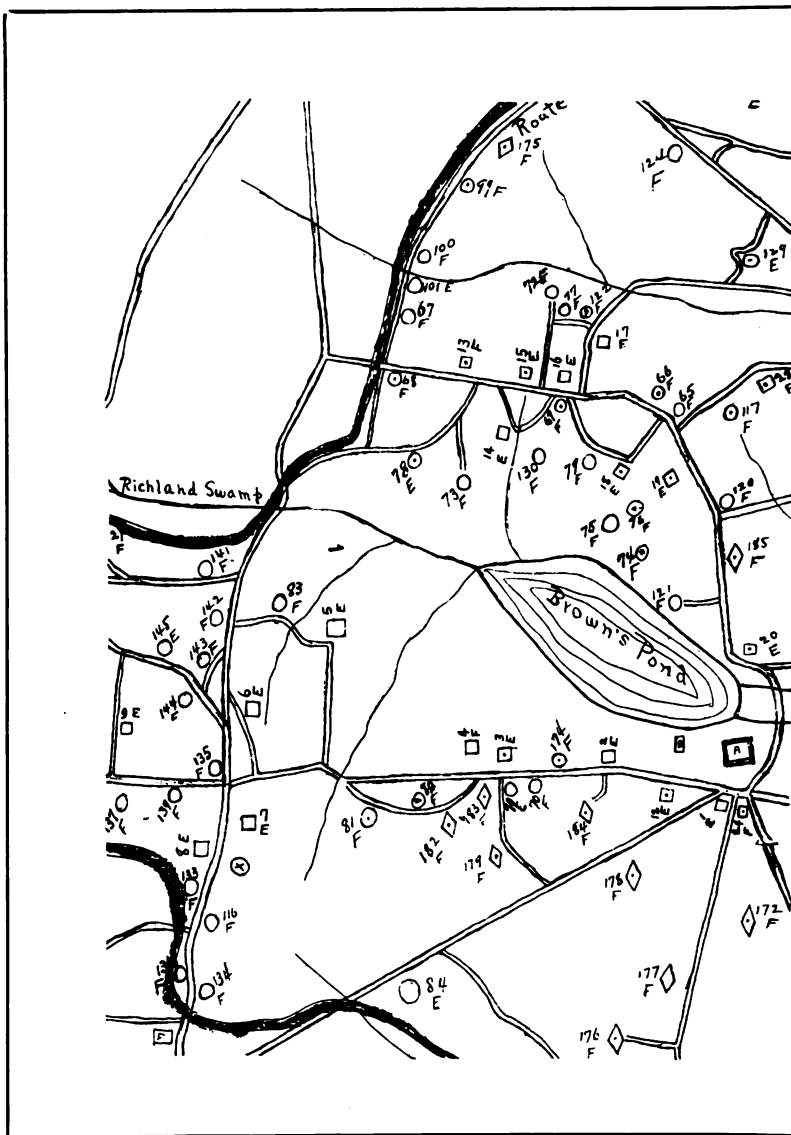
Extent of dispensary work in eleven Southern States.
 Star denotes counties in which dispensaries have been conducted for the free examination and treatment for hookworm disease.



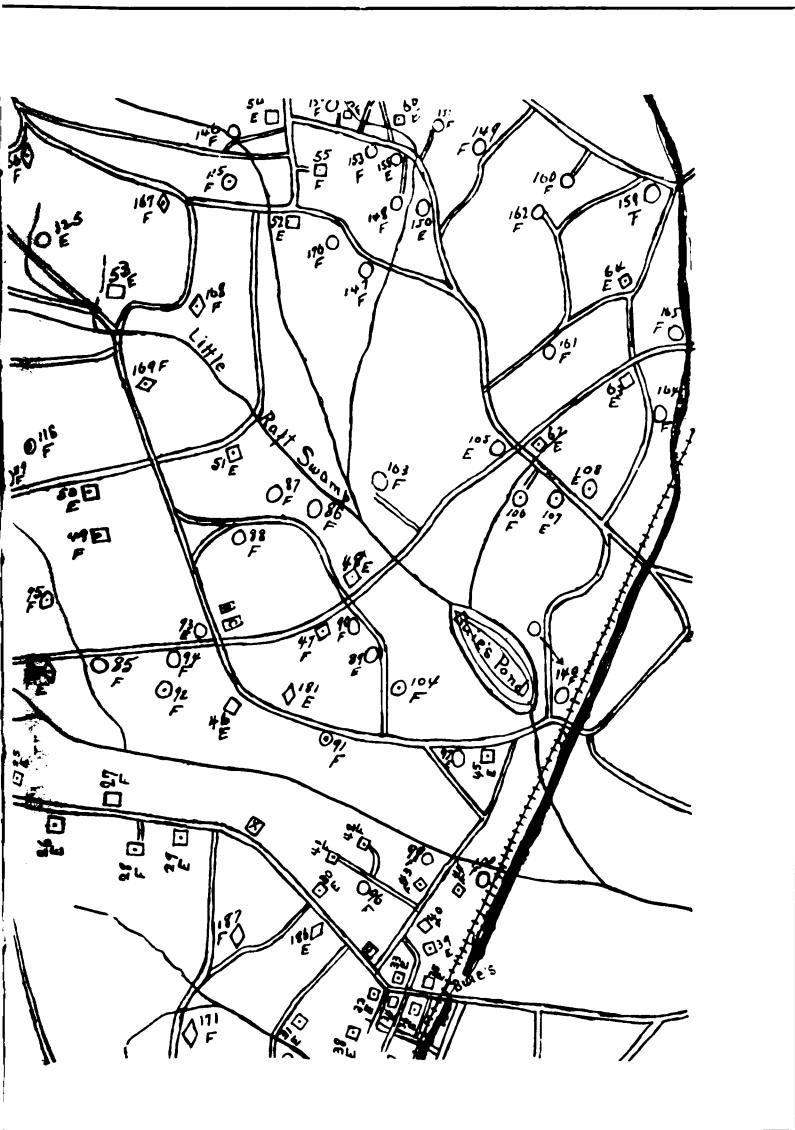
Map of the Salemburg community, Sampson county, Nor
an enlarged section of the map with key. For detailed st
27, page 51.



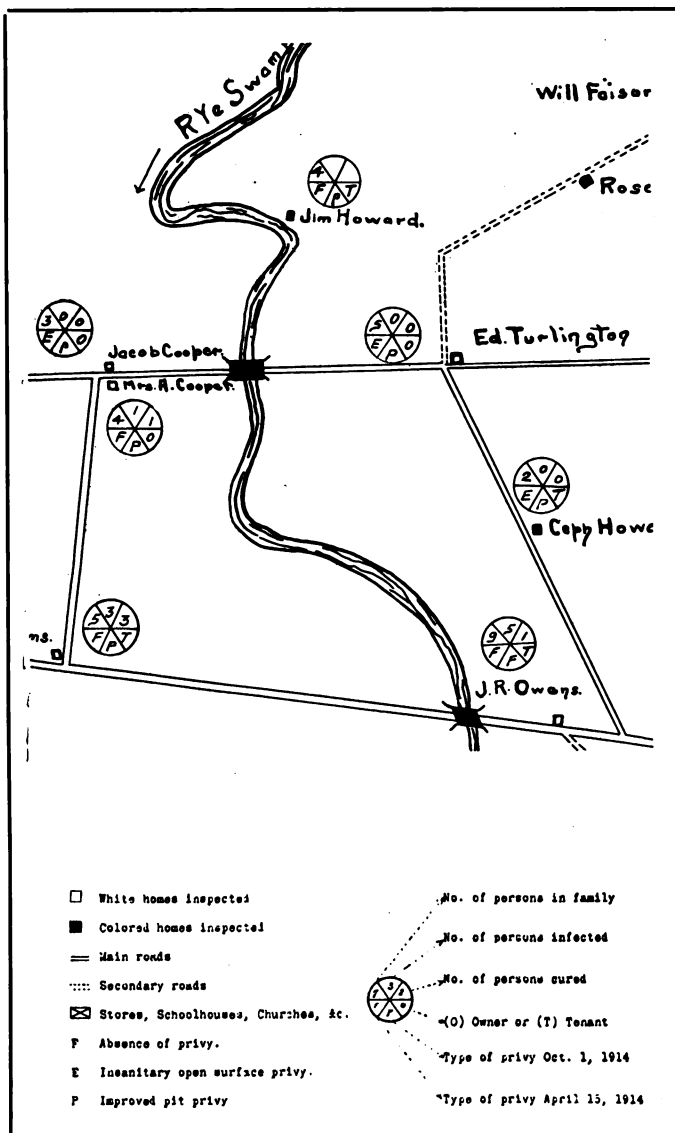
Carolina, showing intensive community work. Page 104 shows
 ment of results accomplished in this community, see Table No.



Map of the Philadelphia community, Robson county, North
duces the record by families. For detailed statement of results



Carolina, showing intensive community work. Page 105 reproduced in this community, see Table No. 27, page 51.



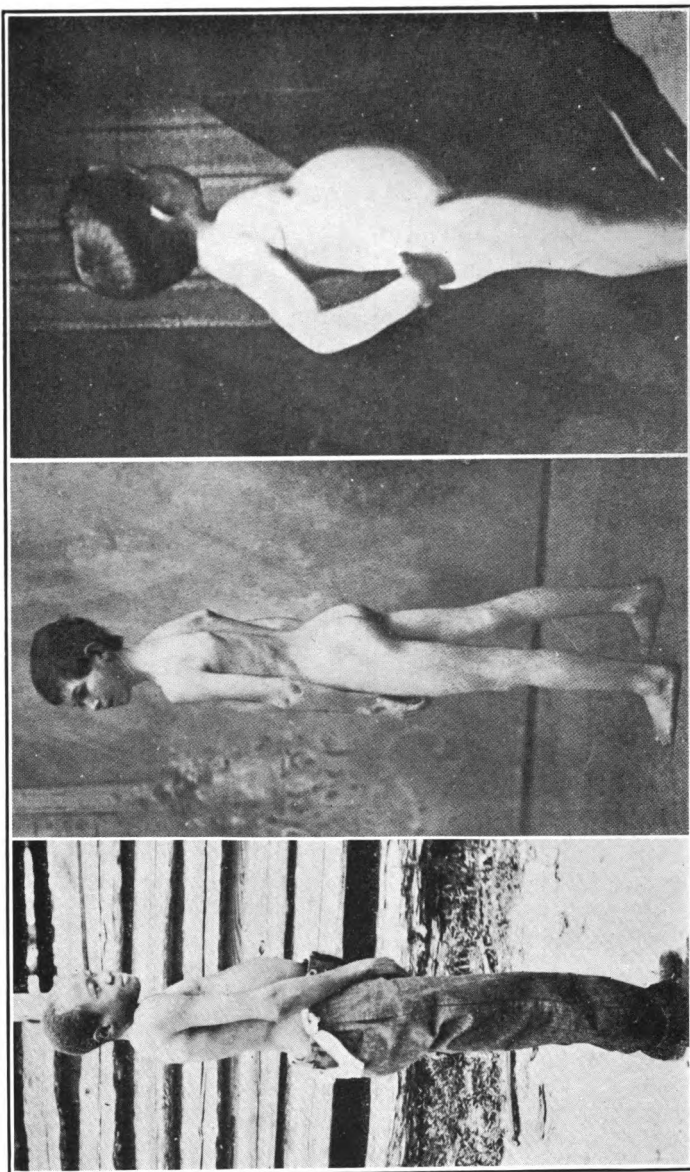
Enlarged section of map, with key, of the Salemburg community, Sampson county, North Carolina, reproduced from pages 100 and 101.

white											
NAME	NAME OF HOUSEHOLDER	1	2	3	4	5	6	7	8	9	10
1	McKee, Mrs. P. A.	3	✓	2	0			6	P	✓	School Dormitory
2	Burns, W. P.	7	✓	6	0			8	P	✓	
3	Brown, G. L.	10	✓	9	4	3		6	P	✓	
4	Adkins, J. B.	3	✓	2	0			7	P	✓	
5	Brown, George	2	✓	1	0			6	P	✓	
6	✓ McKee, G.	2	✓	3	0			6	P	✓	Built first dormitory privy.
7	McCall, Martha	2	✓	2	0			6	P	✓	
8	Humphrey, J. B.	3	✓	3	1			7	P	✓	
25	✓ Mrs. H. H.	7	✓	7	5			6	P	✓	
26	Hall, J. E.	7	✓	5	3			6	P	✓	
27	Davis, W. T.	3	✓	3	0			7	P	✓	
28	Graham, L. W.	6	✓	5	4			7	P	✓	
29	Ellerbe, D. F.	8	✓	8	4			6	P	✓	
30	McQueen, S. T.	3	✓	3	3	3		6	P	✓	
colored											
95	Maek, Mrs.	12	✓	8				7	P	✓	
96	Patterson, track	3	✓					7	P	✓	
97	McNeill, Rott.	10	✓					8	P	✓	
98	✓ Charlotte	6	✓					8	P	✓	
99	Smith, James	5	✓					7	P	✓	
115	Robison, Ida	2	✓	2	1			7	P	✓	
116	McRae, Jas.	6	✓					7	P	✓	
117	McDonald, A. H.	7	✓	6				7	P	✓	
118	Reith, Bill	6	✓	5	1			7	P	✓	
Indian											
166	Bryant, Gilbert	2	✓	2		1		7	P	✓	
167	✓ Mary	2	✓	2				7	P	✓	
168	Moore, Vander	3	✓					7	P	✓	

KEY TO MAP.

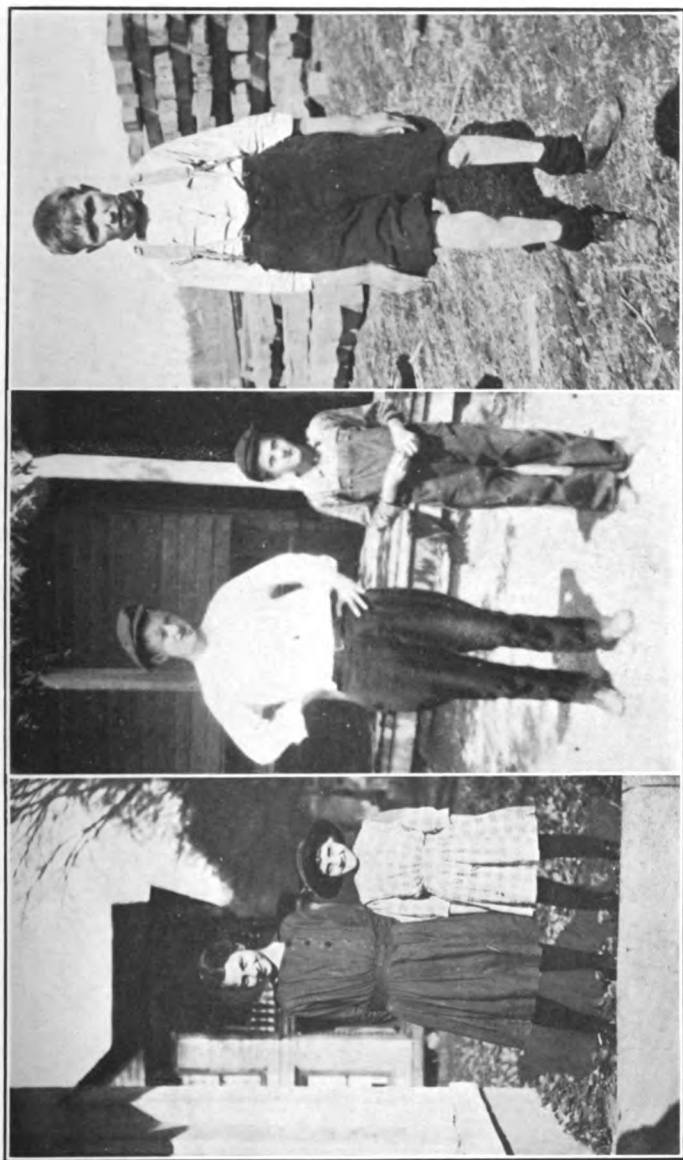
☐ White home: no infection
☒ " " infection
☐ " " vacant
☐ Colored home: no infection
☒ " " infection
☐ " " vacant
☐ Indian home: no infection
☒ " " infection
☐ " " vacant
☐ Open surface privy when work began
☒ No privy when work began
 NOTE: All homes and schools had a pit privy at close of work.

Section of family record, with key to map, of the Philadelphia community, Robeson county, North Carolina, to accompany the maps on pages 102 and 103.



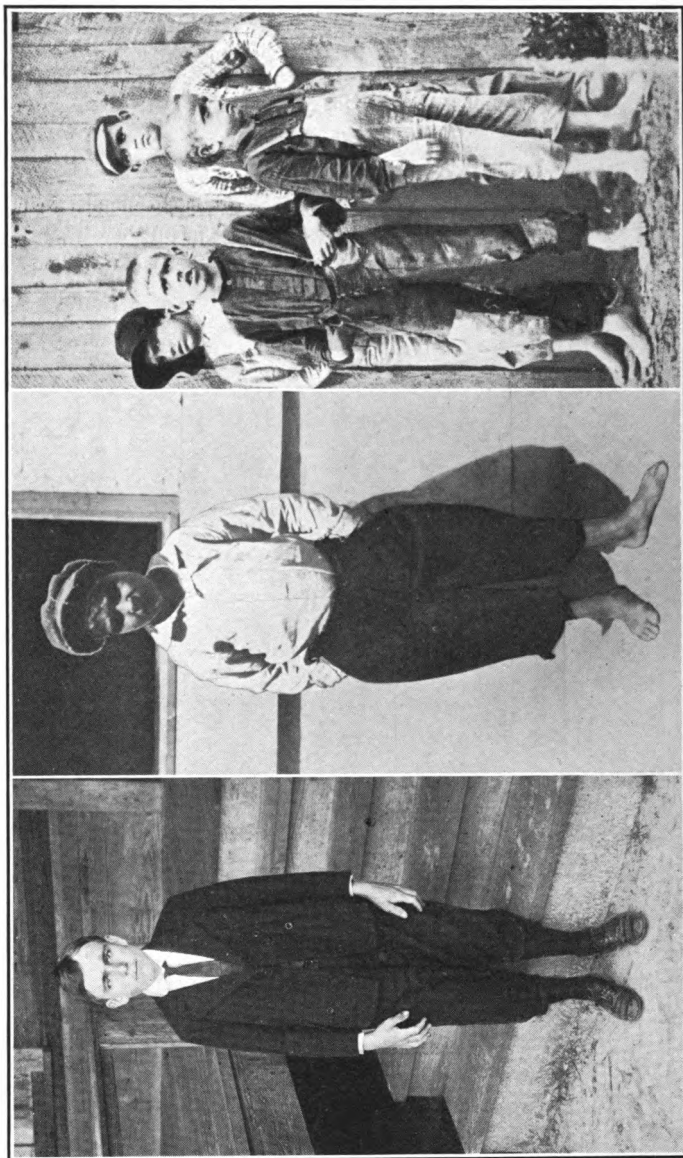
CHARACTERISTIC SYMPTOMS OF HOOKWORM DISEASE

Figure 1—W. H., colored, Leake county, Mississippi; 17½ years old; weight, 85 pounds. Note "pot-belly."
 Figure 2—R. D. Kaufman county, Texas; age, 16 years; weight, 63½ pounds; height, 52 inches.
 After treatment gained 9 pounds in 9 days. Note "angel-wings." Figure 3—3-year-old child, Cass county, Texas. Note "pot-belly."



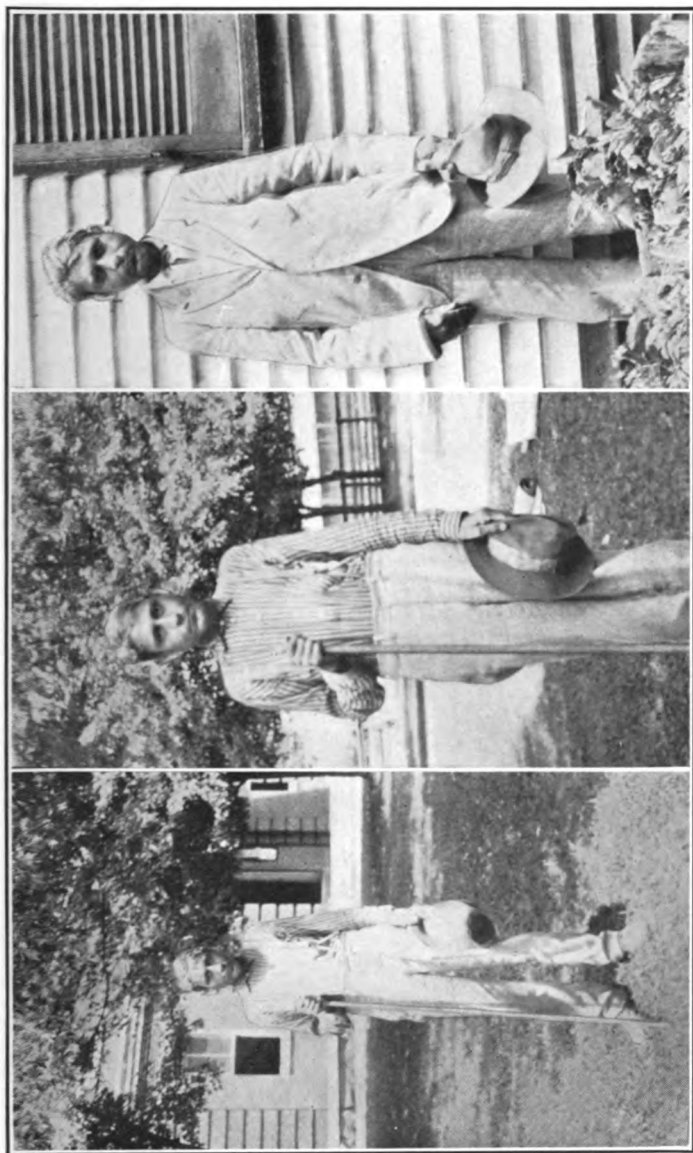
CHARACTERISTIC SYMPTOMS OF HOOKWORM DISEASE

Figure 1—M. L. and O. M., Bryson City, N. C.; both 10 years of age. Small girl heavily infected. Large girl not infected. Figure 2—Both boys 14 years old. Smallest boy, Z. H., heavily infected; weight, 66 pounds. Large boy, J. C. M., not infected; weight, 142 pounds. Towns county, Georgia. Figure 3—E. L., Pugh, Ashley county, Arkansas. Heavily infected.



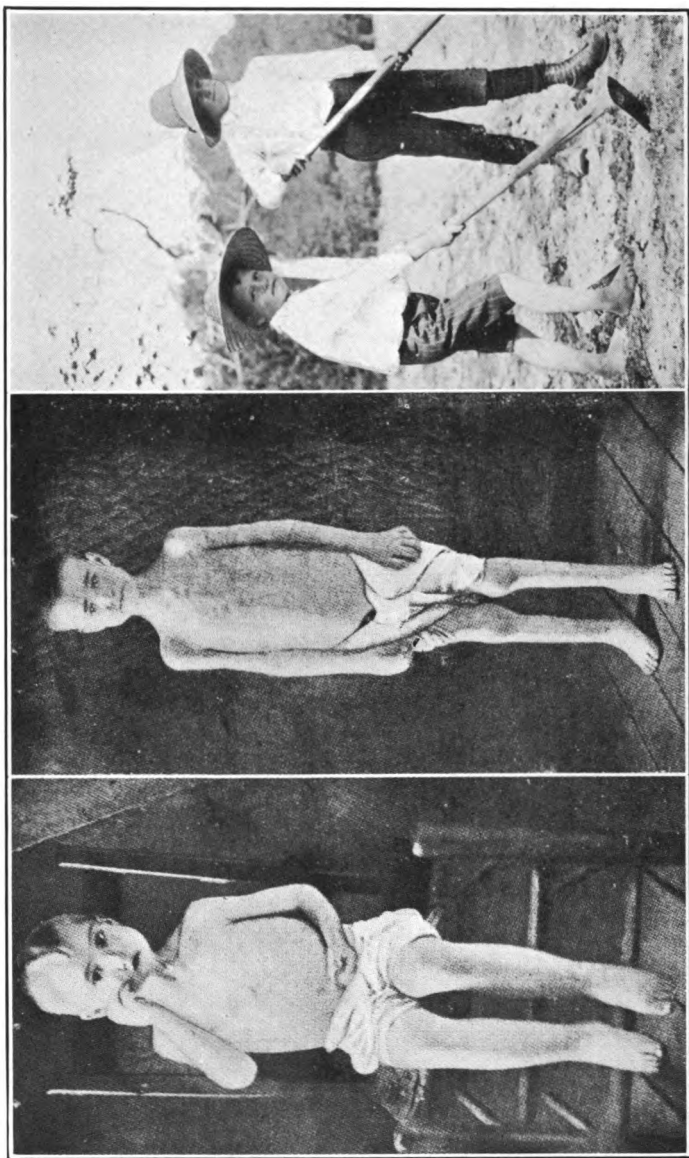
CHARACTERISTIC SYMPTOMS OF HOOKWORM DISEASE

Figure 1—J. R., — county, Kentucky; two months after treatment. Features suggest abnormal development. Weight, 116 pounds. Figure 2—C. W., Henderson, North Carolina; age 16; weight, 60 pounds. Had tremendous appetite and was "pot-bellied." Figure 3—Four boys heavily infected. Larue county, Kentucky.



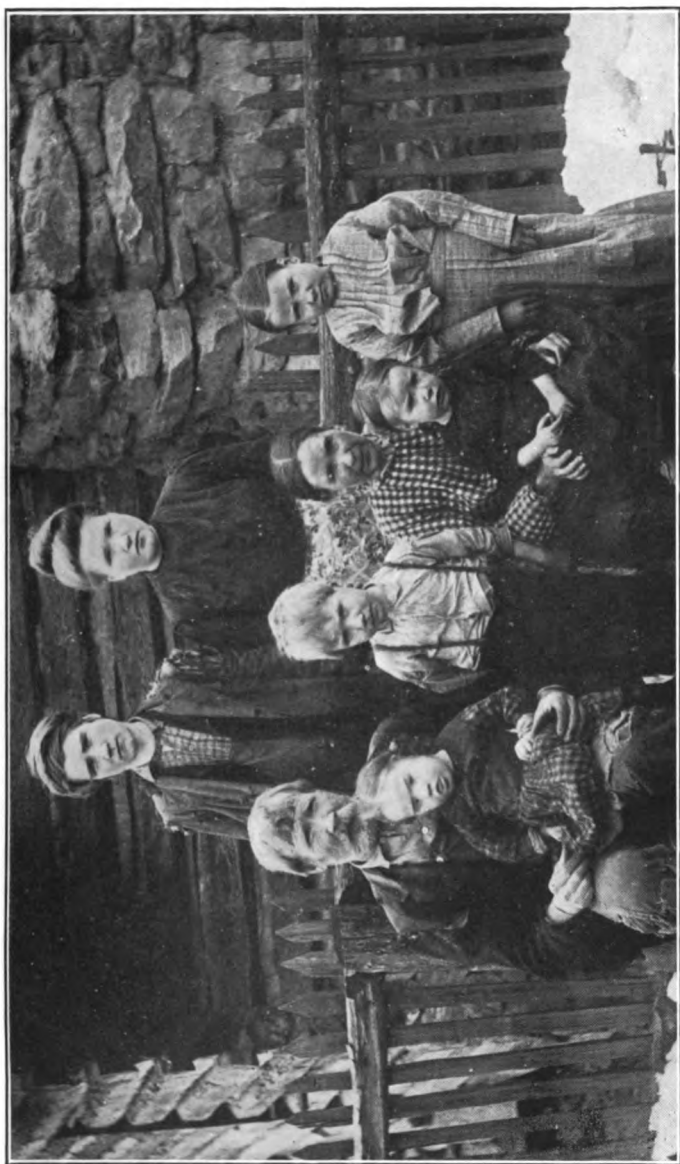
RESULTS OF TREATMENT

N. H., 35 years old, Goose Rock, Kentucky. Had been in poor health for years; was found severely infected; was treated and recovered rapidly. The pictures from left to right show him in three successive stages of improvement. Note how his cheeks filled out. He is the sole survivor of a family of eleven, all of whom are supposed to have had hookworm disease. All had been paupers, cared for at the county's expense.

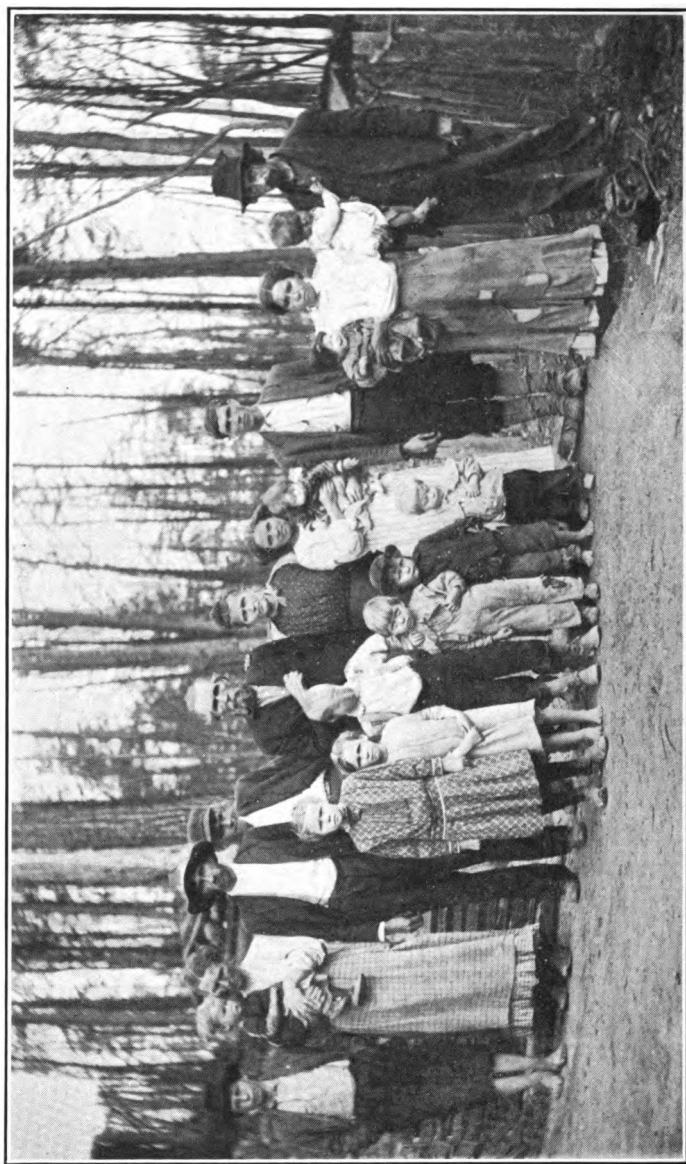


RESULTS OF TREATMENT

Figures 1 and 2—J. and S. M., Larue county, Kentucky. Five children in family; all had been treated for "kidney trouble." Two died a short while before the boys shown above were treated for hookworm disease. Figure 3—J. and S. M. as they appeared after treatment.



S. family, Hancock county, Tennessee. All children infected; parents not examined.

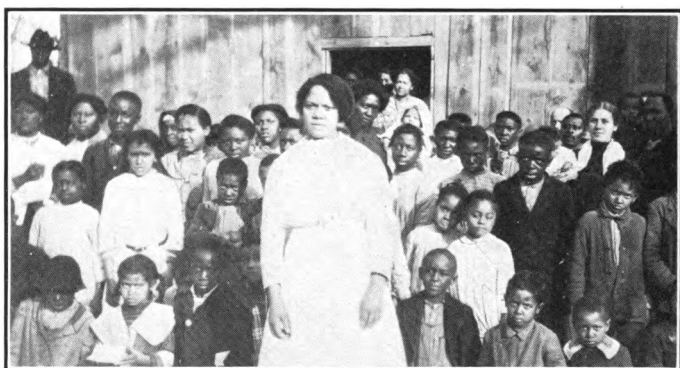
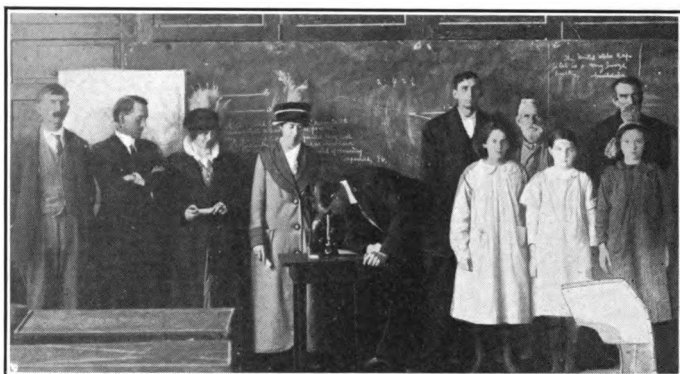


EFFECTS OF HOOKWORM DISEASE
Three generations suffering from hookworm disease. H. family, Hawkins county, Tennessee.



EFFECTS OF HOOKWORM DISEASE

Figure 1—Preacher and three children infected; wife negative; "grandma" would not be examined. Leslie county, Kentucky. Figure 2—C. family, Leslie county, Kentucky. A type of poverty often curable by restoring health. Figure 3—Six children of the B. family, Almond, N. C., all infected. Age, from left to right, 16, 6, 8, 13, 14, 10.



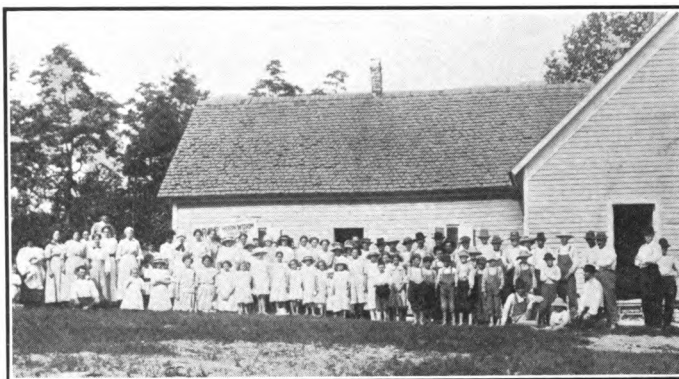
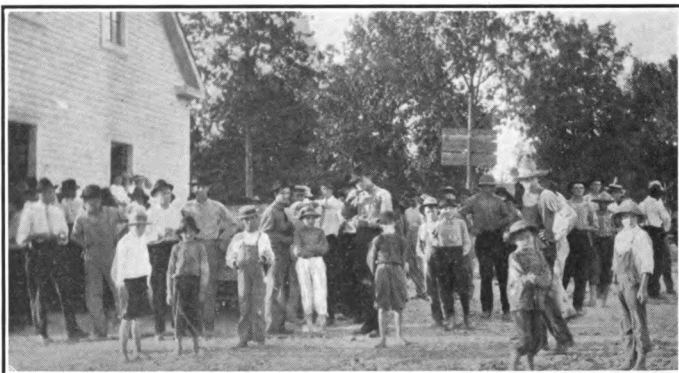
THE PUBLIC SCHOOL IS AN IMPORTANT AGENCY IN THE
DISPENSARY CAMPAIGN

Figure 1—School group, Leslie county, Kentucky, showing high percentage of infection. Figure 2—At the Romeo school, Greene county, Tennessee. The teacher, Mr. T. E. R. D., rode 8 miles to a dispensary to get specimens containing eggs of the hookworm, which he showed to his pupils. As a result, every pupil submitted a specimen on the first day of the dispensary. Figure 3—Negro school, Benton county, Mississippi; taught by M. M., a colored graduate. "One of the neatest schools of the county." Every child and every parent came out to the lecture and all of them were examined.



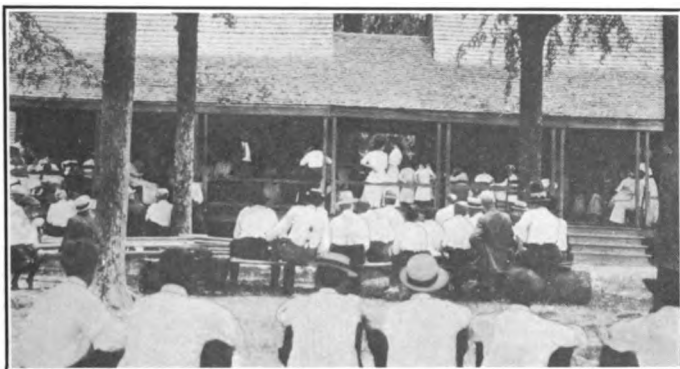
THE SCHOOL REFLECTS COMMUNITY SPIRIT

Figure 1—Consolidated Public School, Maurepas, Louisiana. Children brought five miles in transfer wagons. School provided with two pit privies, sanitary drinking fountain, and spacious grounds for exercise and play. Figure 2—Philadelphus public school building, Robeson county, North Carolina. An example of what proper community spirit produces. County also has a full-time health officer. Figure 3—Schoolroom seen in passing; backwardness typical of health conditions.



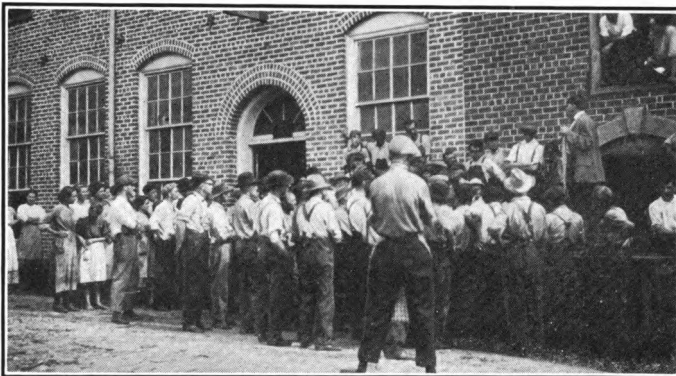
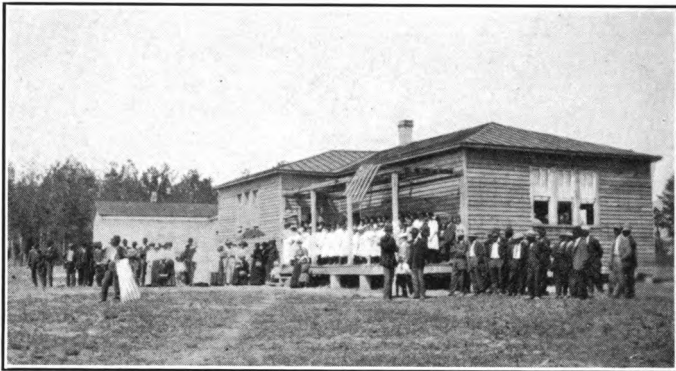
**COUNTY FREE DISPENSARY FOR TREATMENT OF HOOK-
WORM DISEASE**

Figure 1—Dispensary for colored people, Vaiden Hill School, Carroll county, Mississippi. Figure 2—Dispensary, Kirkville, Itawamba county, Mississippi. "Always a full house to hear the lectures." Figure 3—Dispensary, Crowson, Sevier county, Tennessee.



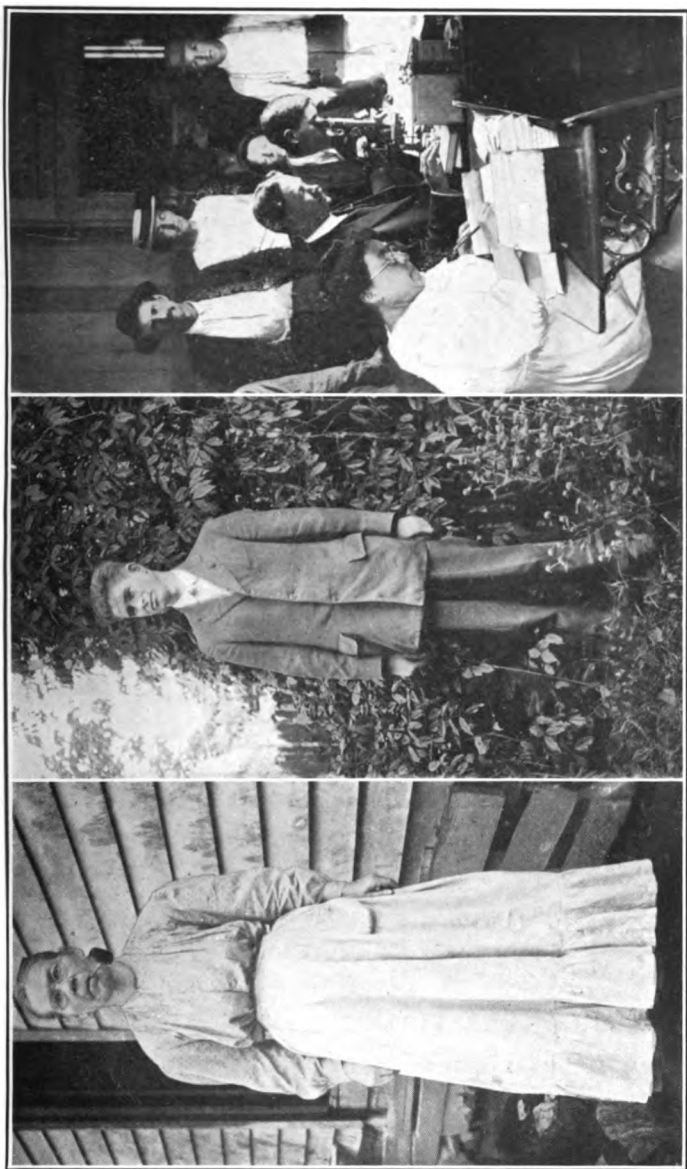
**COUNTY FREE DISPENSARY FOR TREATMENT OF HOOK-
WORM DISEASE**

Figure 1—Dispensary, Hyden, Leslie county, Kentucky. Figure 2—Farmers' Union meeting and barbecue, Nash county, North Carolina. Full-time county health officer addresses audience on health work. Figure 3—Dispensary, Clear Branch, Unicoi county, Tennessee.



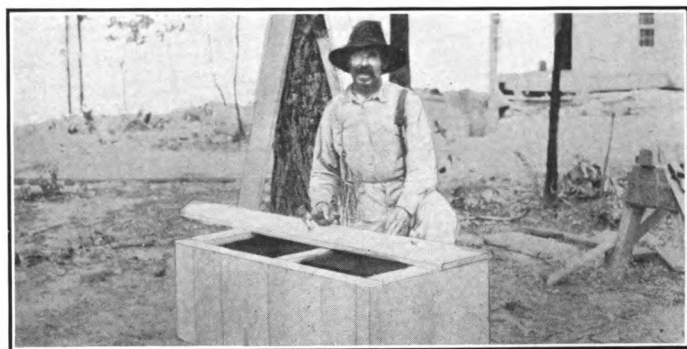
**COUNTY FREE DISPENSARY FOR TREATMENT OF HOOK-
WORM DISEASE**

Figure 1—Dispensary at Halls Fork, Leslie county, Kentucky.
Figure 2—Dispensary for colored people at a colored school.
Mount Zion, Caroline county, Virginia. Figure 3—Mill
stopped so that operatives might listen to lecture on hook-
worm disease at Saxapahaw, Albemarle county, North
Carolina.



HELPING HANDS IN DISPENSARY CAMPAIGNS

Figure 1—Leslie county, Kentucky. "A good old soul who, with pipe in mouth and ready hand, visits the sick and helps in the hookworm campaign." Figure 2—Mr. B., Leslie county, Kentucky; a teacher who brought specimens from his school in a neighboring district. All, himself included, were found infected. Figure 3—Miss P., a teacher assisting in the dispensary work, Sevier county, Tennessee.



THE USE OF SANITARY CLOSETS—A SOLUTION OF THE HOOKWORM PROBLEM

Figure 1—Mr. J. H. B., Red Oak community, Nash county, North Carolina. Figure 2—Constructing improved privies, Morrilton school, Forrest county, Mississippi. Three trustees in the group. Figure 3—Carpenter making seat for pit privy, Philadelphus community, Robeson county, North Carolina.

CHAPTER IV.

REPORT OF THE SCIENTIFIC SECRETARY

Addresses.—During the calendar year 1914 my time has been so taken up with other matters that I have been able to give fewer public lectures than usual. Nevertheless, I have spoken on the subject of hookworm disease and soil pollution before audiences in Maryland, District of Columbia, Virginia, North Carolina and South Carolina.

Lantern Slides.—There has been a material decrease in the request for lantern slides from people in different parts of the country. This is probably due to the fact that lantern slides on hookworm disease are now purchasable from manufacturers and a number of institutions appear to have ordered sets for their own use.

Microscopic Diagnosis.—During the year 1914 the State Boards of Health have sent to me specimens which presented unusual features for diagnosis. I continue to receive specimens of this kind from all over the South and probably this class of work will continue for some years to come.

Field Work.—Almost my entire time in 1914 has been given up to a study of the data obtained in the field studies of county Z— and in county X—, mentioned in the last report, and in a continuation of studies in county X—. It will be some months before all the data collected are ready for print.

Investigations.—(a) *Fecal contamination of food.*—In the report for 1913 mention is made of the development of a

method whereby it is possible to determine whether a given person has eaten food contaminated with human excrement.

I have now applied the test to 2,372 persons, chiefly children, taken at random from 12 different localities in 3 States. In addition I have applied this test to people in the North, in the East, in the South, and in the West. Of the 2,372 mentioned, 425, or 17.9%, namely, practically 1 person in every 5, gives positive proof that he or she has actually swallowed human excrement. The data obtained have been utilized as follows:

In sending out reports on microscopic examinations I have utilized the circular as follows:

REPORT ON MICROSCOPIC EXAMINATION.

(Date of postmark.)

Parents of

.....

SIR OR MADAM:

The report on the specimen from your daughter son,.....
, Case Number....., will be found
 in paragraph.....

Respectfully,

C. W. STILES.

Par. 1—No evidence of intestinal parasites was found.

Par. 2—There was an infection with protozoa, known as *Entamoeba*

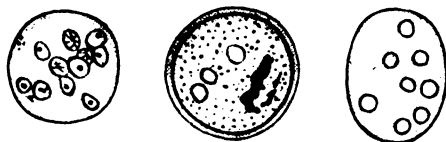


Fig. 2a. Spores of *Entamoeba coli*.

coli (2a), *Lamblia* (2b), *Trichomonas* (2c). These minute germs are usually of very little importance from a standpoint of causing disease, but their presence is proof

that the person in whose intestine they are found has swallowed food contaminated with human excrement. While this contamination may occur in several different ways, the most common method is doubtless by means of flies which have bred or fed at some surface privy. (See page 123.) It is, therefore, only a matter of chance that the infection found is a relatively harmless one instead of typhoid fever.

Fig 2b. A *Giardia* Spore.Fig. 2c.
Trichomonas.

I would very urgently advise you to request the health officer to inspect the locality in which you live to see whether there is not some insanitary surface privy (see page 123) near you, that is breeding flies which are carrying human excrement to the food in your kitchen or dining room.

Par. 3—The presence of the following eggs (3a and 3b) in the specimen examined is positive proof of the presence of a tapeworm. The person should be taken to a physician for treatment. Tapeworms are spread through lack of proper sanitation, and by eating beef, pork, or fish that is not properly cooked. (See also Par. 11.)



25 μ
Fig. 3a.
A Tapeworm Egg.



Fig. 3b. Egg of the Dwarf Tapeworm.

Par. 4—The presence of this egg (4a) is positive proof that the person has hookworm infection. Hookworms are spread because of lack of proper sanitation. (See also Par. 11.)



25 μ

Par. 5—The presence of this egg (5a) is positive proof that the person has



50 μ
Fig. 4a.
A Hookworm Egg.

eelworms (stomach worms). These worms are spread because of lack of proper sanitation. Infection occurs through swallowing human excrement. (See also Par. 11.)

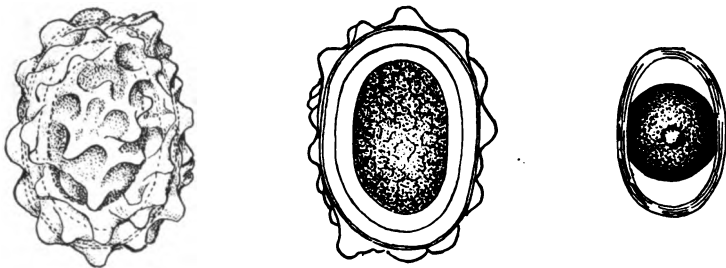


Fig. 5a. Eelworm Eggs.

Par. 6—The presence of this egg (6a) is positive proof that the person has whipworms. Usually these parasites seem to do little harm; treatment is rather unsatisfactory. These worms are spread because of lack of proper sanitation. Infection occurs through swallowing human excrement.



Fig. 7a.
Pinworm
Egg.

Par. 7—The presence of this egg (7a) is positive proof that the person has pinworms. Treatment must be persisted in until a cure is effected. These worms may be spread by improper sanitary conditions. Infection occurs through swallowing human excrement. (See also Par. 11.)

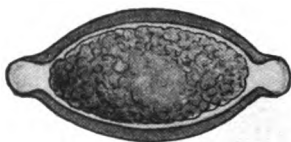


Fig. 6a. A Whipworm Egg.



Fig. 8a. The Embryo of the Worm that causes Cochin-China Diarrhoea.

Par. 8—The presence of this embryo (8a) is positive proof that the germ of Cochin-China diarrhoea is present. Treatment must be persisted in for a considerable time and is frequently unsatisfactory. The disease is spread by insanitary conditions. (See also Par. 11.)

Par. 9—.....

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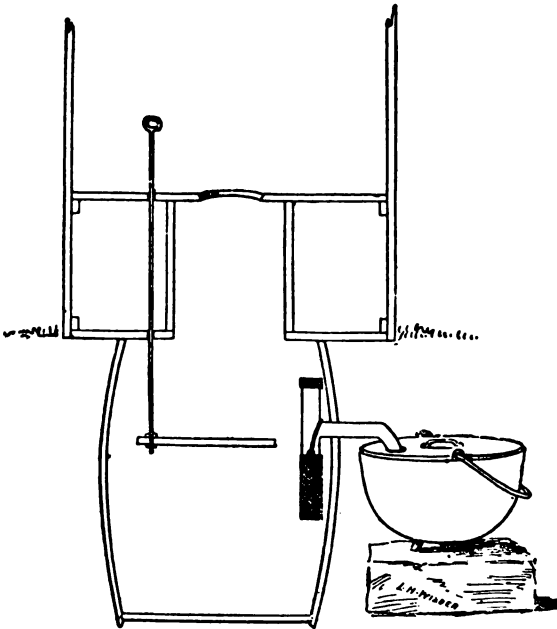
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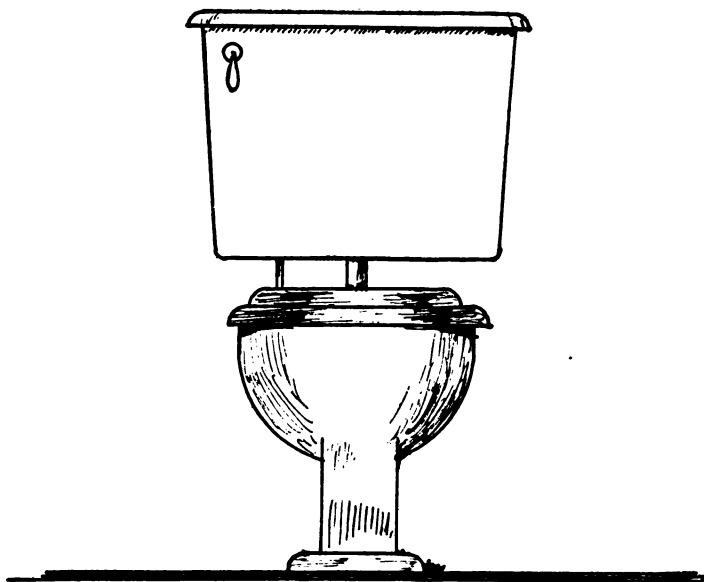
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This privy, if properly cared for, is nearly as efficient as a water-closet with sewer connection.

Par. 10—No specimen was received. An examination will be made free of charge if you will send to the hospital about a spoonful of the bowel movement.

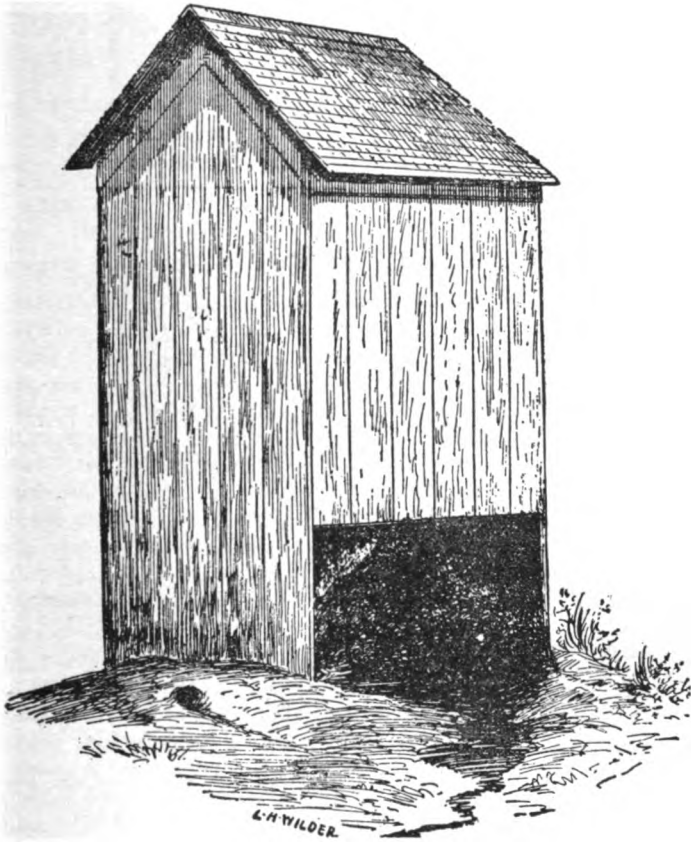


We must not deceive ourselves with the idea that any type of privy is as good as a good water-closet with sewer connection.

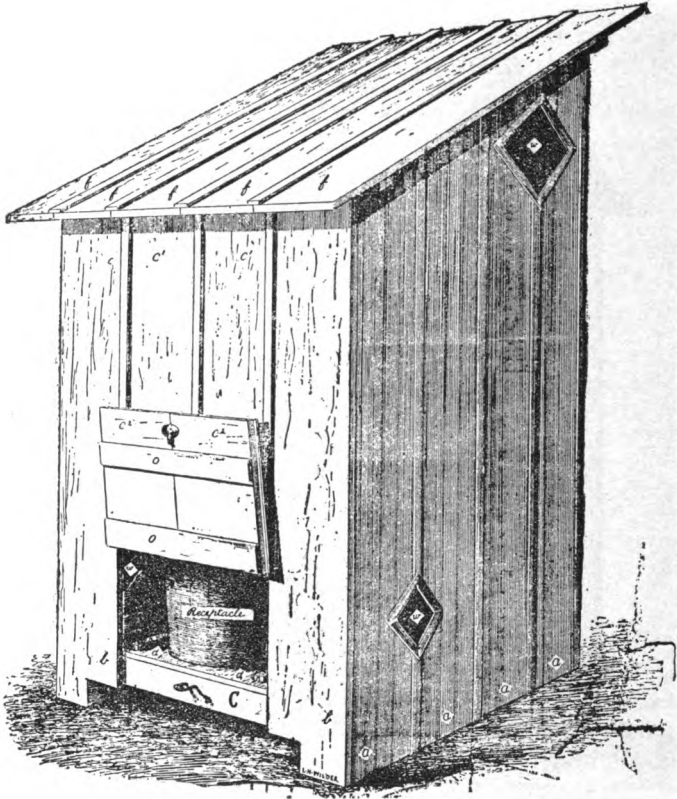
Par. 11—The U. S. Marine Hospital at Wilmington, N. C., can take in for treatment a limited number of male patients infected with parasitic diseases. (Paragraphs 2-9.) Female patients should be treated at home by their family physicians, or at some other hospital.

* * * * *

The following are some of the diseases spread by soil pollution resulting from improper privies: Typhoid fever (350,000 cases; 35,000 deaths per year in the United States); summer diarrhoeas and dysenteries; eelworms, pinworms, whipworms, hookworms, etc.



This is an insanitary privy which is only 10% as efficient as a water-closet connected with a sewer. Flies breed and feed here. It is an abomination and should not be permitted in any civilized community. Is a privy of this kind near you, supplying your home with flies that smear human excrement over your food?



This privy, if fly proof, is about 75% as efficient as a water-closet with sewer connection.

The common house fly breeds in any kind of filth, especially in surface privies and horse manure. Of 2,372 persons, chiefly children, taken at random from 12 different localities in 3 States, 425 (17.9%) were found infected with the parasites mentioned in paragraph 2. Thus 1 in about every 5 persons examined had swallowed food contaminated with human excrement that was conveyed chiefly by flies.

This circular shows to the parents exactly the evidence found in the examination and it has been my experience that parents are very much interested in the matter when presented to them in this way. If by chance paragraph two (2) is marked for their children they evince an unusual interest in the subject.

I have also sent out nearly 30,000 circular letters of the type that is given below :

**CONFIDENTIAL LETTERS TO THE MOST PROMINENT
CITIZENS. FIGHT FLIES, FILTH AND FEVER.**

SIR OR MADAM :

Recently a new test has been discovered by which it is possible to determine whether a given person has swallowed human excrement. Taking advantage of this discovery, I have just finished studies on 2,372 persons (chiefly children) taken at random from 12 different localities in 3 different Southern States. The results are of such a nature that they may best be kept out of the newspapers, but they certainly must be brought to the knowledge of the leading citizens who direct public sentiment and control public policy. I hope you will approve of the method of bringing the matter to your attention in a letter instead of by notice in the daily press and that you will discuss the subject with the officials and citizens of your city or town personally, but not in the newspapers.

Our studies at the U. S. Marine Hospital demonstrate, beyond question, that of the 2,372 persons tested (taken at random from 12 localities in 3 different States), 425 persons, or 17.9% (namely, practically 1 person in every 5), have given us positive proof that he or she has actually swallowed human excrement. Our experiments show that one of the most common methods of bringing about this condition is through means of flies; the flies feed and breed at the privies, soil their feet and bodies with filth, carry the filth to the food (as at stores or in dining rooms and kitchens) with which it is swallowed.

Our test does not show us whether the contamination in a given person comes from the privy of a white or a neighbor negro, but as the two races are living in such close proximity in many cities and towns, it is clear that each race is eating not only its own excrement, but also that of the other race.

Let us recall that a number of diseases (such as typhoid fever, summer diarrhoeas and dysenteries, amoebic dysentery, various infections

with intestinal parasites, in some cases even tuberculosis, etc.) are contracted from swallowing human excrement.

In justice to the mothers of the South, it is our serious moral duty to protect them and their children from this totally unnecessary source of so much disease; the method of protection is simple, and consists of the following:

(1) In every case possible, abolish the privy and substitute in its place a water-closet, with sewer connections. (2) When (because of financial or other considerations) sewer connections are not feasible, a private septic tank is valuable. (3) If neither sewer nor septic tank is feasible, the privy conditions should be improved: (a) by making the privy flyproof (as long as flies or their maggots can be found feeding or breeding in your privy, you have positive proof that the privy is not sanitary); (b) use the receptacle system rather than the surface type; (c) see that the receptacle is emptied regularly—in the more progressive cities and towns this is done by local authorities. You can at least have a *skid-privy* that is flyproof. This is a temporary make-shift, but better than a surface privy open in back.

If you do not know how to make the privy sanitary and flyproof, ask your local health office. *The chief function of a local health office is to help the people protect themselves.*

Will you not support your local health office and the public in an effort to improve sanitary conditions so as to reduce unnecessary sickness and death? The women and children of the State need your help in this work—which is more important than politics.

In conclusion, let me assure you that the one motive I have in view in bringing this matter to your attention is my interest in the well-being of the South.

Yours for the health of the babies and children,

Respectfully,

C. W. STILES.

In choosing the persons to whom these circulars should be sent I have taken chiefly telephone directories, on the principle that in general the most influential persons of the community have telephones. It is, of course, impossible to judge any measurable result that has followed these letters, nor do I look seriously upon the point of view that we must be able to measure results in sanitation in a short space of time. I feel, however, that something has been begun by these letters, for, in

reply to them, I have received requests for anywhere from 12 to 500 copies of the letter which various people have desired to distribute further. One meat dealer, for instance, requested 400 for distribution among his customers; one college president requested 200; one cotton mill president requested several hundred for distribution among his employees; one business firm has reprinted the letter and is sending it out with its regular advertising material, etc., etc.

Word has reached me from various towns that, upon receipt of these letters, the communications were the topic of conversation of the town for next week.

That some good has been accomplished by this method of work cannot be questioned, but the degree of good cannot be expressed in figures. I am, however, persuaded from the experience that I have had that it would pay to circularize the entire country with a letter of this general type.

(b) *Use of oil of chenopodium instead of thymol.*—On account of the war in Europe, resulting in a restriction of the thymol market, I began early a hospital study of hookworm cases treated with oil of chenopodium. The results obtained by my assistant, Dr. J. J. S. Schmitt, were very gratifying, but upon hearing of three fatal cases following the use of oil of chenopodium in another State, work on this subject was suspended until further details could be learned. While full details are not yet in my hands, my information is to the general effect that it is exceedingly questionable whether the deaths referred to were due to the drug. Certain it is that our patients complain less from oil of chenopodium than they did from thymol and that our results were exceedingly satisfactory.

I hope to continue this study later. Caution with this drug is, however, indicated until a physiological antidote is found.

C. W. STILES.

APPENDIX—STATE HEALTH FORCES

State	Members, State Board of Health	Executive Officers*	Field Directors	Microscopists	Clerks
Alabama	Medical Association of the State of Alabama, Board of Censors	W. H. Sanders, M. D., State Health Officer W. W. Dinamore, M. D., State Director for Sanitary Commission P. B. Moss, M. D., State Bacteriologist and Pathologist	J. Fraser Orr, M. D. E. V. Caldwell, M. D. C. A. Grote, M. D., F. V. Menwether, M. D. R. C. Williams, M. D.		John D. Bibb
Arkansas	F. B. Young, M. D., Pres. (1) B. A. Fletcher, M. D. S. A. Southall, M. D. W. P. Parks, M. D. (2) G. A. Warren, M. D. L. A. Buckner, M. D. Morgan Smith, M. D. (3)	Morgan Smith, M. D. (4), Secretary and Executive Officer C. W. Garrison, M. D., State Director of Rural Sanitation	T. B. Bradford, M. D. T. M. Fly, M. D. E. A. Campbell, M. D.	L. H. Callen, M. D. R. H. Hall, M. D. J. R. Harley, Jr. L. J. Reinhart S. R. Hoffman J. B. McDaniel S. D. McGill J. M. Moose, Jr. W. T. King Miss Virdele Simpson	Martha Blakeney Mary E. Blakeney Mary Simpson Bertha Huron
Georgia	Howard J. Williams, M. D., Pres. H. F. Harris, M. D. W. W. Owens, M. D. A. D. Little, M. D. T. J. McArthur, M. D. Jas. H. McDuffie, M. D. Robt. F. Maddox, M. D. W. L. Funkhouser, M. D. Giles Hathcock, M. D. W. H. Doughty, Jr., M. D. J. L. Walker, M. D. M. S. Brown, M. D. J. D. Weaver, M. D. P. F. Bahnsen, M. D. Prof. M. L. Brittain	H. F. Harris, M. D., Secretary and Director of Laboratories A. G. Fort, M. D., Director of Field Sanitation	A. W. Wood, M. D. C. R. Henry, M. D. C. H. Verner, M. D. C. C. Whittle, M. D. E. L. Moore, M. D.	D. F. Buchanan, M. D. C. E. Patillo, M. D. J. J. Anderson, M. D. Mrs. A. W. Wood Fred Adams C. R. Adams Claude Shappel ³ Wallace Gable C. R. Henry, M. Methvin Holder J. R. Morgan	Elizabeth Vischer Mrs. G. G. Coleman

* Only the executive officers are named who have some direct connection with the work.

- (1) Succeeded by J. T. Clegg, M. D.
 (2) Succeeded by H. R. Webster, M. D.
 (3) Succeeded by W. F. Smith, M. D.
 (4) Succeeded by F. B. Young, M. D., and C. W. Garrison, M. D.

State	Members, State Board of Health	Executive Officers*	Field Directors	Microscopists	Clerks
Kentucky	John G. South, M. D., Pres. C. A. Fish, M. D. O. C. Robertson, M. D. Charles Z. Aud, M. D. I. A. Shirley, M. D. G. T. Fuller, M. D. W. W. Richmond, M. D. A. T. McCormack, M. D.	A. T. McCormack, M. D., Secretary and State Health Officer, and State Director of Hook- worm Commission Lillian H. South, M. D., State Bacteriologist	J. S. Lock, M. D. W. W. Richmond, M. D. I. A. Shirley, M. D. M. W. Steele, M. D. D. P. Curry, M. D.	Virginia James Ruby Allen Alice Hayden Nell Pearson Edith Clarkson Clayde Stout Mary Frances Shea Edward W. Seent Earl Standil	Clyde W. Howell
Louisiana	Oscar Dowling, M. D., Pres. A. H. Gladden, M. D. T. T. Tartton, M. D. Chas. F. Gelboke, M. D. H. B. White, M. D. Thomas A. Roy, M. D. B. A. Ledbetter, M. D.	Oscar Dowling, M. D., President Wm. M. Perkins, M. D., Secretary Sidney D. Porter, M. D., State Sanitarian and Director of Hookworm Department	G. M. Tresevant, M. D. G. B. Adams, M. D. G. C. McKinney, M. D. J. D. Baucum, M. D.	Mrs. G. C. McKinney	Ethel C. Regan
Mississippi	C. E. Catchings, M. D., Pres. N. C. Womack, M. D. John Darlington, M. D. T. E. Rosa, M. D. E. A. Cheek, M. D. I. W. Cooper, M. D. Theodore Borroum, M. D. S. E. Eason, M. D. S. W. Glass, M. D. J. Sidney Sharp, M. D. W. W. Reynolds, M. D. W. W. Hall, M. D. J. R. Jiggetta, M. D.	E. H. Galloway, M. D., Secretary and Execu- tive Officer W. S. Leathers, M. D., Director of Public Health C. R. Stangly, M. D., State Bacteriologist	R. N. Whitfield, M. D. Henry Boswell, M. D. C. C. Buchanan, M. D. E. H. Howard, M. D. E. D. Dedwyder, M. D. C. C. Applewhite, M. D.	C. V. Powell, M. D. F. A. Williams, M. D. E. D. Butler, M. D. M. H. Cox Ces. Hampton C. H. Love J. E. Friday J. D. Applewhite, M. D.	Fannie May Hargis
North Carolina	J. Howell Way, M. D., Pres. Richard H. Lewis, M. D. J. L. Ludlow, C. E. W. O. Spencer, M. D. Thomas E. Anderson, M. D. Chas. O'H. Laughinghouse, M. D. Edward J. Wood, M. D. A. A. Kent, M. D. Cyrus Thompson, M. D.	W. S. Rankin, M. D., Secretary and State Health Officer W. P. Jacobs, M. D. (5), Assistant Secretary for Hookworm Disease	D. C. Ahester, M. D. John Collins, M. D. G. F. Leonard, M. D. N. T. Long H. E. Freglias J. L. Fegellas W. P. McKay W. P. Race T. P. Stansel E. R. Bridges W. G. Gay R. L. Taylor Clyde Hicks E. O. Carver Smith C. D. Ferrell P. W. Felzer	Kelb: Curties W. S. Tuttle W. B. Long N. T. Long J. L. Fregellas W. P. McKay W. P. Race T. P. Stansel E. R. Bridges W. G. Gay R. L. Taylor Clyde Hicks E. O. Carver Smith C. D. Ferrell P. W. Felzer	Emily Cornelia Boyd

* Only the executive officers are named who have some direct connection with the work.

(5) C. L. Fridgen, M. D., January-April, 1914.

APPENDIX—STATE HEALTH FORCES—Concluded

State	Members, State Board of Health	Executive Officers*	Field Directors	Microscopists	Clerks
South Carolina	Robert Wilson, Jr., Chairman D. E. Frontus, M. D. C. C. Gambrell, M. D. E. A. Hines, M. D. W. J. Burdell, M. D. Wm. Eggleston, M. D. W. M. Lester, M. D. W. W. Dodson, Ph. G. Thos. H. Peeples A. W. Jones	James A. Hayne, M. D., Secretary and State Health Officer J. LaBruce Ward, M. D., Director Rural Sanita- tion F. A. Coward, M. D., Director of Labora- tories	F. M. Routh, M. D. J. T. Howell, M. D. F. D. Rodgers, M. D. L. A. Riser, M. D.	C. W. Miller E. C. Polk E. W. Peeples	
Tennessee	R. E. Fort, M. D., Pres. A. M. Gamble, M. D. Y. A. Biggs, M. D. Hon. T. F. Peck	R. Q. Lillard, M. D., Secretary and Execu- tive Officer Olin West, M. D., Assistant Secretary for Eradication of Hook- worm Disease William Litterer, M. D., State Bacteriologist	T. B. Yancey, Jr., M. D. H. B. Toward, M. D. J. M. Lee, M. D. W. P. Robinson, M. D. W. S. Rude, M. D.	Herman Spitz Rue Hedge Mrs. W. P. Robinson H. Haeker, M. D. C. P. Edwards, Jr. E. W. Graves	
Texas	Ralph Steiner, M. D., Pres. B. F. Calhoun, M. D. Hugh McLaurin, M. D. K. H. Beall, M. D. T. T. Jackson, M. D. B. M. Worsham, M. D. S. M. Lister, M. D. R. F. Babcock	Ralph Steiner, M. D., State Health Officer R. P. Babcock, Secretary M. H. Bemer, M. D., State Director of Hook- worm Commission G. H. Graham, M. D., State Bacteriologist	Hubert Ferrell, M. D. O. H. Jenkins, M. D. C. H. Brownlee, M. D. J. D. Davis, M. D. E. M. Outlaw, M. D. J. H. Thorne, M. D.	D. A. Huddleston Eugene Moore J. C. Adams J. C. Huddleston Mrs. J. D. Davis Fred. Adams	Grace E. Brown
Virginia	W. M. Smith, M. D., Pres. S. W. Hobson, M. D. J. B. Fisher, M. D. A. G. Crockett, M. D. T. C. Frebaugh, M. D. Lewis E. Harvie, M. D. G. B. Johnston, M. D. G. B. Lawson, M. D. Stuart McGuire, M. D. L. T. Royster, M. D. Reid White, M. D. O. C. Wright, M. D.	Ernest G. Williams, M. D., Commissioner Allen W. Freeman, M. D., Assistant Commissioner Maud Ferguson, Ph. D., Bacteriologist	W. A. Brumfield, M. D. K. E. Miller, M. D. W. E. Bray, M. D. A. P. Tramm, M. D. J. T. Booth, M. D. E. L. Flanagan, M. D. Emma Bell Gault, Nurse	I. O. Fitzgerald, Jr., M. D. M. T. Vaden M. L. Crawford R. B. Davis, Jr. B. H. Moffatt W. O. Poindexter E. L. Harper K. D. Graves A. J. Chanery E. G. Cate	Lottie Allen Lucille Crutchfield

* Only the executive officers are named who have some direct connection with the work.

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